Vol. XVI. No. 5 SEPTEMBER MCMVIII

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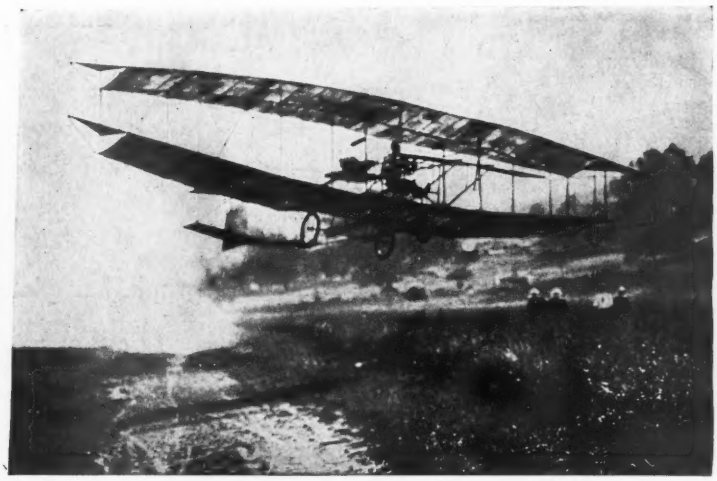
THE WORLD'S WORK

THE AIRSHIP IS HERE

By FREDERICK TODD



HOW THE STANDARD OIL COMPANY DOES ITS BUSINESS

By C. M. KEYS

DOUBLEDAY, PAGE & COMPANY; NEW YORK
WILLIAM HEINEMANN; LONDON

Jenny Lind singing at Castle Garden in 1851

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The World's Work

WALTER H. PAGE, EDITOR

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(With full-page portraits of Mr. John D. Rockefeller, Bishop David H. Greer, President David F. Houston, Dr. Alexander Graham Bell, Mr. Frederick T. Gates, Professor A. Lawrence Lowell, and Mr. John D. Archbold; and with photographs of Mr. Taft accepting the nomination for the Presidency, the Quebec Ter-centenary celebration, Mr. Henri Farman's Aëroplane in action, and American Winners in the Olympic Games.)

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Country Life in America **The Garden Magazine-Farming**

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F. N. DOUBLEDAY, President — WALTER H. PAGE, H. S. HOUSTON, Vice-Presidents — H. W. LANIER, Secretary — S. A. EVERITT, Treasurer

THE BATTLESHIPS STARTING ACROSS THE PACIFIC OCEAN

THE LAST SIGHT OF THE FLEET FROM OLD FORT POINT, SAN FRANCISCO HARBOR

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THE WORLD'S WORK

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SEPTEMBER, 1908

VOLUME XVI NUMBER 5

The March of Events

THE fall begins hopefully. The harvest is big and the price of it high; and this means plenty for the largest economic group of our population.

The farmer, in fact, has hope of double good luck this year, as he had last year — both big crops and high prices. These do not come together under usual conditions; but the grain crops of Europe last year were small, and the outlook is that they will be small this year also. The value of this year's crop in the United States is estimated at eight billions of dollars — more than twice the value of the crop of 1904.

There is, too, an increasing amount of work for the skilled and for the unskilled. Even before the summer ended, practically all the mills of the Steel Corporation resumed operation with books full of orders, at only slightly reduced prices. The slump in steel manufacture seems past and thousands of workmen have gone back to work.

The railroads have already given employment to many thousands of men who had been laid off. The Illinois Central road, for instance, some time ago put 8,000 men to work on new construction and improvements. The Santa Fé took back 3,500 men who had been laid off from shops and road. The Pennsylvania Road reopened its big Eastern shops. Several railroads gave up plans for the reduction of wages, and for the further cutting of the lists of men at work. This in spite of the lessening of dividends.

Fourteen of the principal railroads, according to a computation by the *Wall Street Journal*, will pay about eighteen million dollars less in dividends this year than they paid last year. They include the Pennsylvania, the New York Central, the Atchison, the Southern. This falling-off of course reflects the conditions of the first half of the year.

Men of conservative temperaments will not rush to the conclusion that the full tide of prosperity is come. But the panic is past. If we had had no panic, perhaps bumper crops this year might have brought another period of wild inflation. As it is, the bounty of the fields will restore the country to its normal state, chastened, let us hope, by the memories of 1907, and ready for a long, steady, sober march on safe roads.

Every panic and every depression brings benefits. They may be costly, but they are benefits nevertheless, such as the weeding out of ill-managed or superfluous or unsound concerns, and especially the checking of reckless expense and the discouragement of speculative methods. It is a flat and unpleasant commonplace, but it is true, that a too long period of very great prosperity does more harm to the character of many men and many communities than even bankruptcy does to others. Extravagant living and a speculative atmosphere are likely to be fatal if not to the generation that first indulges in them, then surely to the next generation. It is better to be poor than to be soft.

This Presidential election has no malign, hardly a depressing, influence on business; for there is nothing to scare the people about. Perhaps some time we may even bury the venerable superstition that a Presidential election must needs make a stagnant year.

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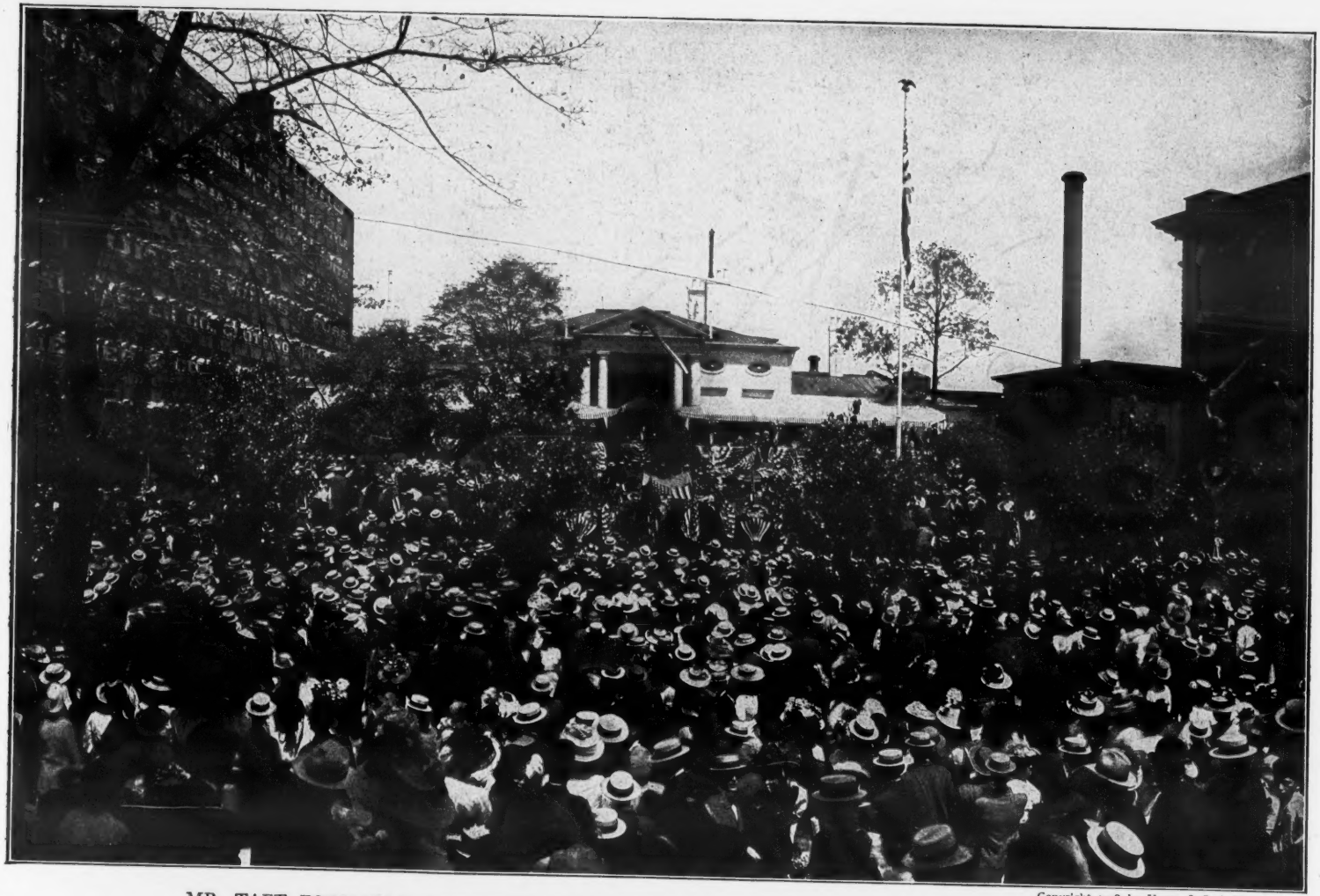

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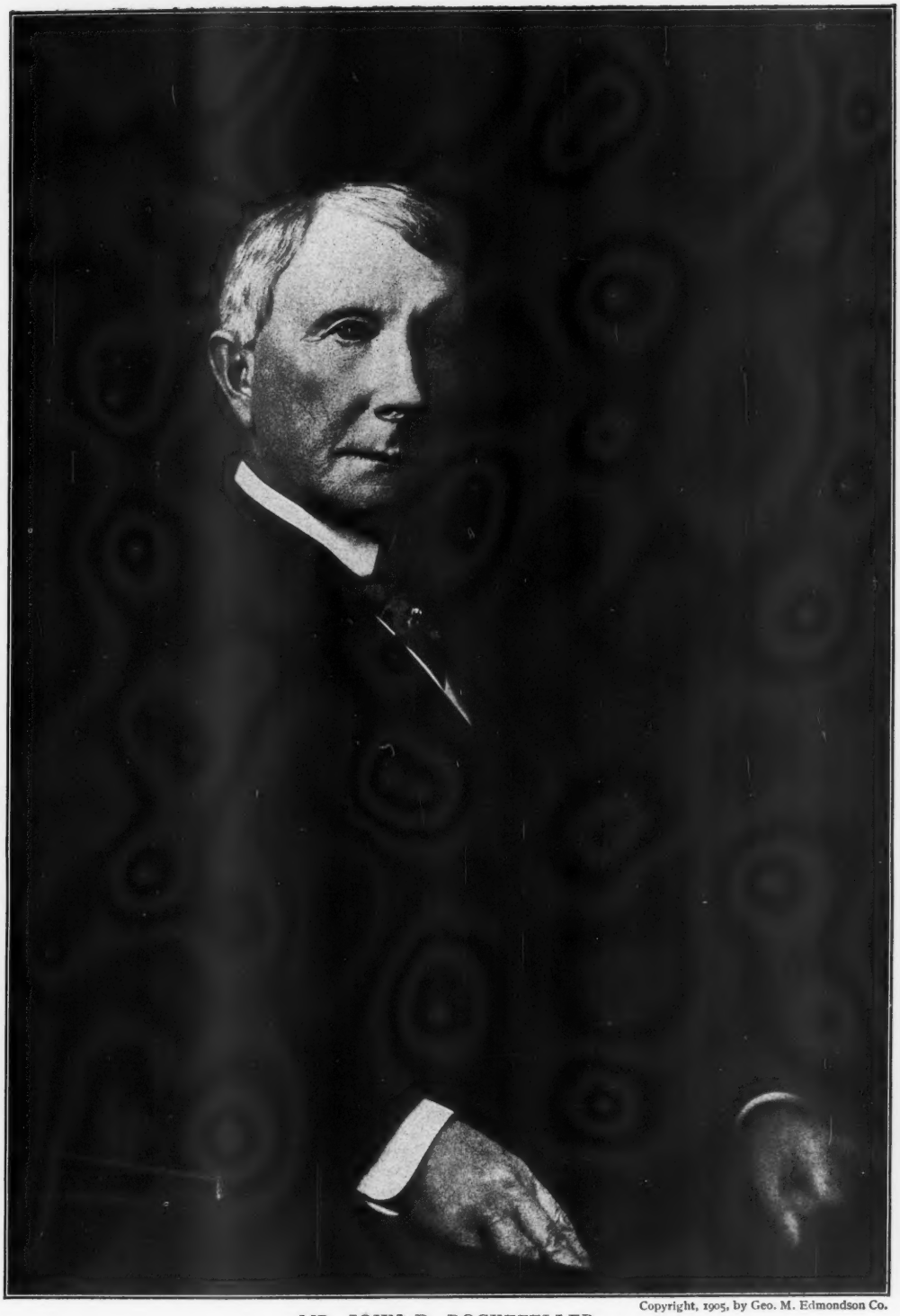
MR. TAFT FORMALLY ACCEPTING THE REPUBLICAN NOMINATION FOR THE PRESIDENCY

ON THE VERANDA OF THE RESIDENCE OF HIS BROTHER, MR. CHARLES P. TAFT, OF CINCINNATI, O.



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MR. JOHN D. ROCKEFELLER

"IT WAS EXCEEDINGLY DIFFICULT TO ADJUST THE NOTION OF A POWERFUL DESPOT TO THIS MAN, WHO APPEARED TO ME TO BE A KINDLY GENTLEMAN . . . HIS FRANKNESS AMAZED ME. HE SEEMED TO HAVE NO SECRETS, THERE WAS NO AIR OF MYSTERY, NO SECRETIVENESS"

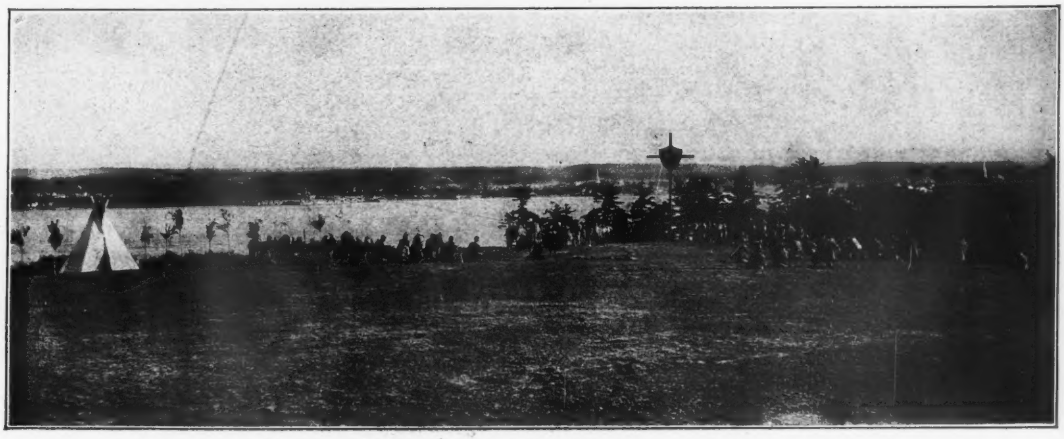
(See page 10704)

THE OPENING OF THE TER-CENTENARY CELEBRATIONS AT QUEBEC, SUNDAY, JULY 19TH

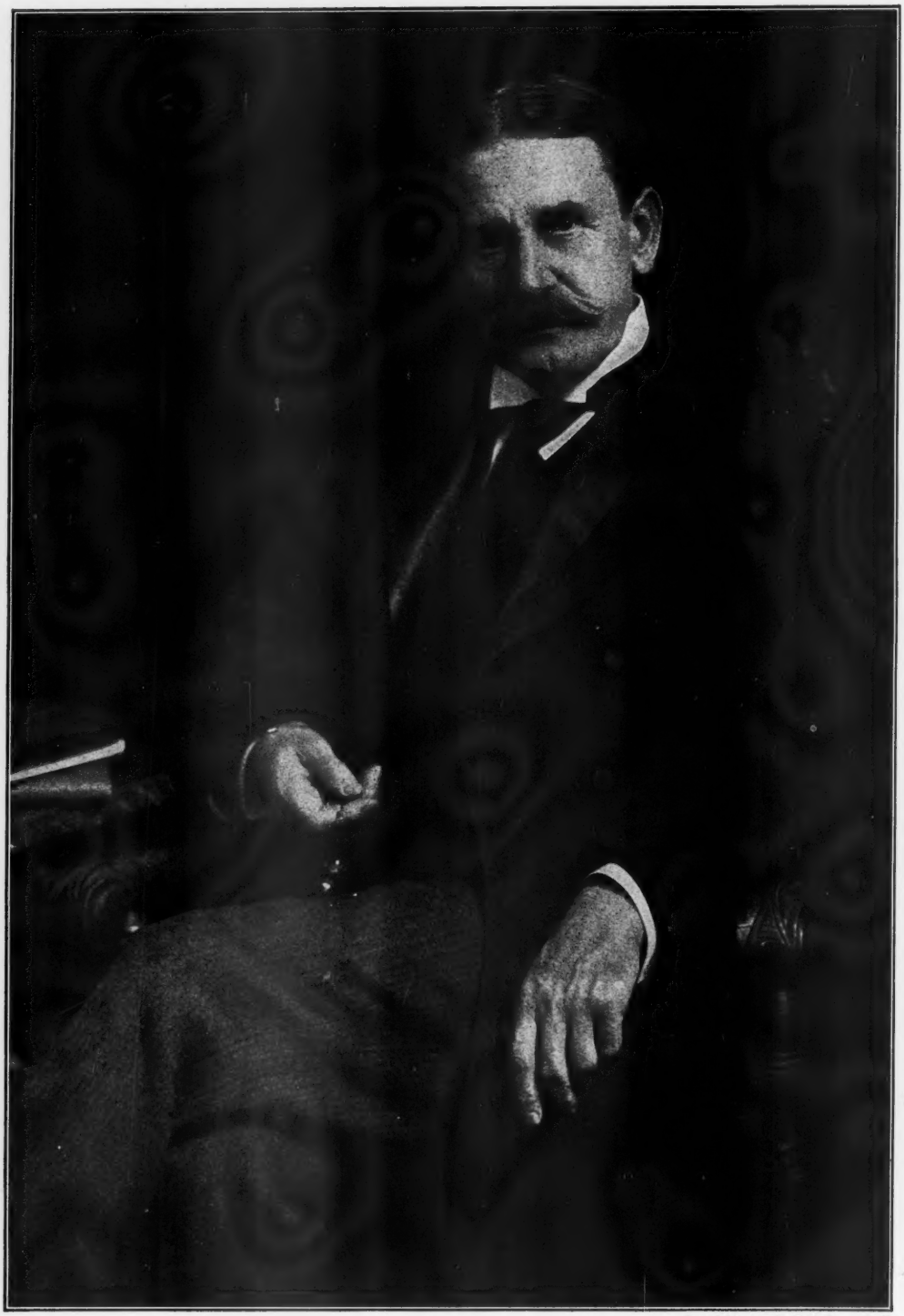
AMONG THE DIFFERENT FRENCH-CANADIAN SOCIETIES THAT HAVE MARCHED TO HANG WREATHS UPON CHAMPLAIN'S STATUE, MAY BE NOTICED ONE IN PAGEANT UNIFORM. THE ZOUAVES ARE ALSO PROMINENT. ON EITHER SIDE OF THE STATUE IS A FLAG OF THE ROMAN CATHOLIC CHURCH; THE ONE BEARS THE SACRED HEART, THE OTHER THE PONTIFICAL KEYS

HENRI IV. AND HIS QUEEN APPROACHING THEIR THRONE IN THE LOUVRE
WHERE THEY WILL LISTEN TO CHAMPLAIN'S ACCOUNT OF HIS DOINGS AT QUEBEC. 4TH SCENE OF PAGEANT

BRITISH WARSHIPS ILLUMINATED AT QUEBEC, ON THE NIGHT OF JULY 23RD



OPENING SCENE OF THE GREAT HISTORICAL PAGEANTS AT QUEBEC
JACQUES CARTIER AND HIS FOLLOWERS HAVE ARRIVED (1535) AND ERECTED A CROSS UPON WHICH THE INDIANS GAZE WITH WONDER. THEY HAVE BROUGHT A SICK MAN FROM THE WIGWAM TO BE CURED BY THE FRENCH LEADER



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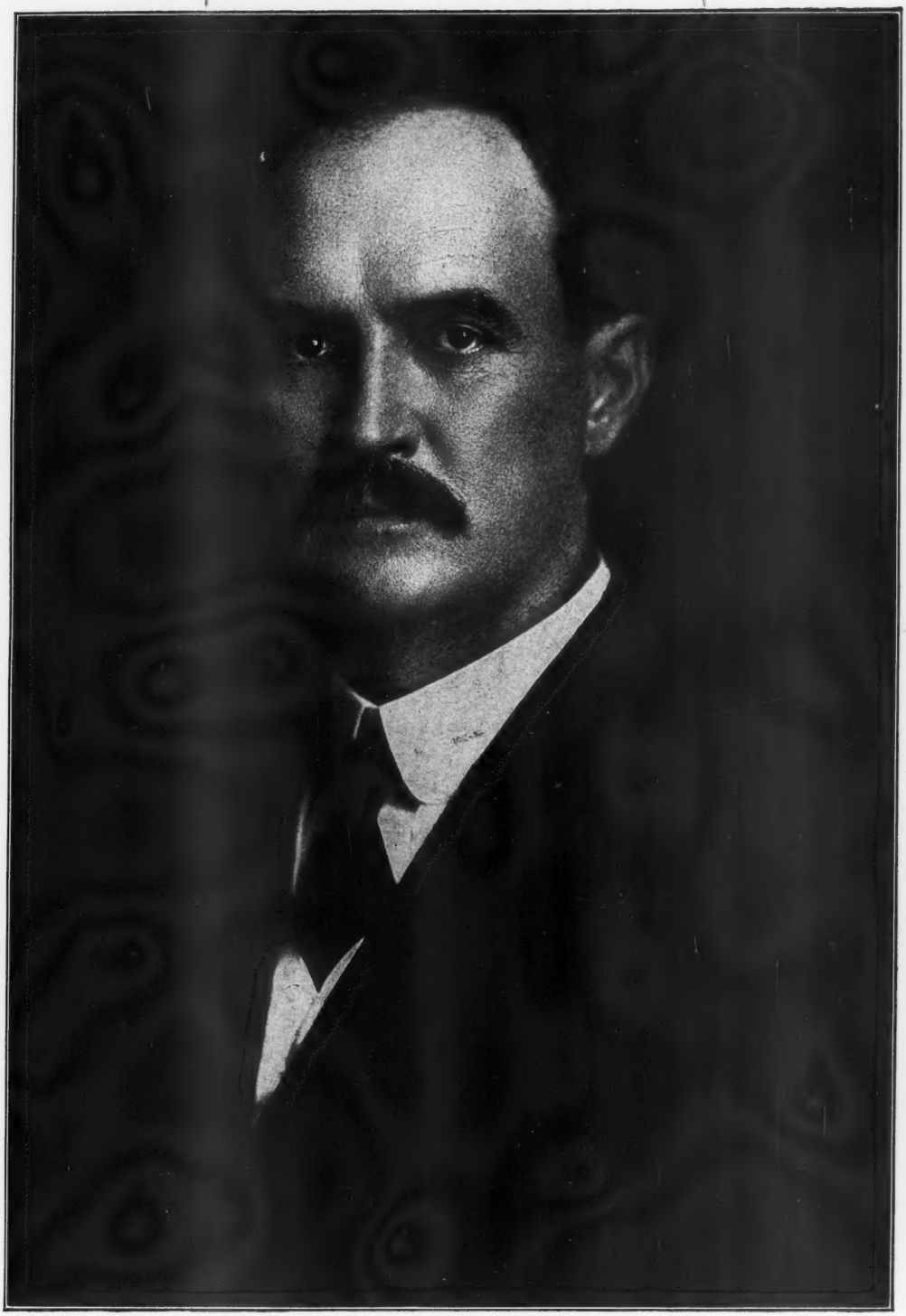
BISHOP DAVID H. GREER

WHO HAS SUCCEEDED THE LATE BISHOP POTTER IN THE EPISCOPAL DIOCESE OF NEW YORK, THE LARGEST IN THE UNITED STATES



DR. DAVID F. HOUSTON

THE NEWLY ELECTED PRESIDENT OF WASHINGTON UNIVERSITY, ST. LOUIS, MO., FORMERLY PRESIDENT OF THE UNIVERSITY OF TEXAS

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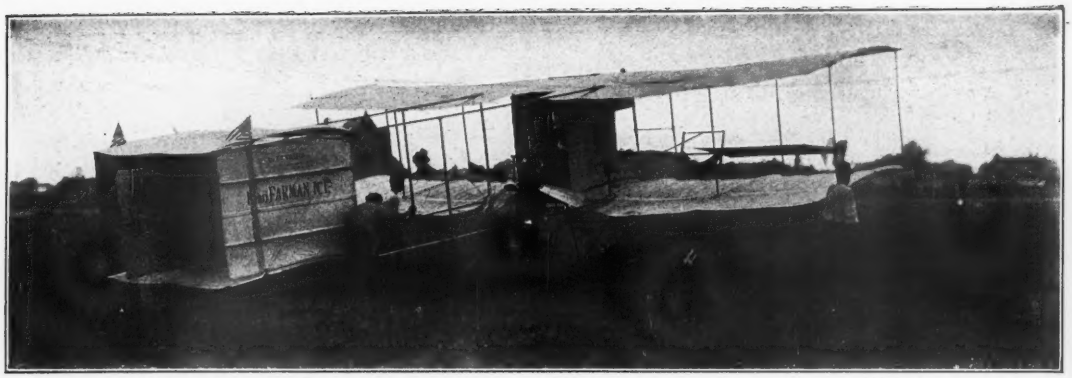
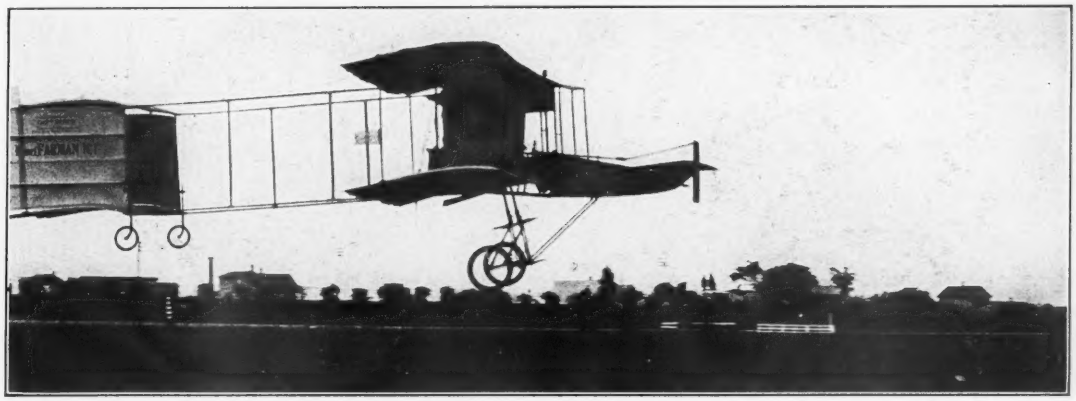
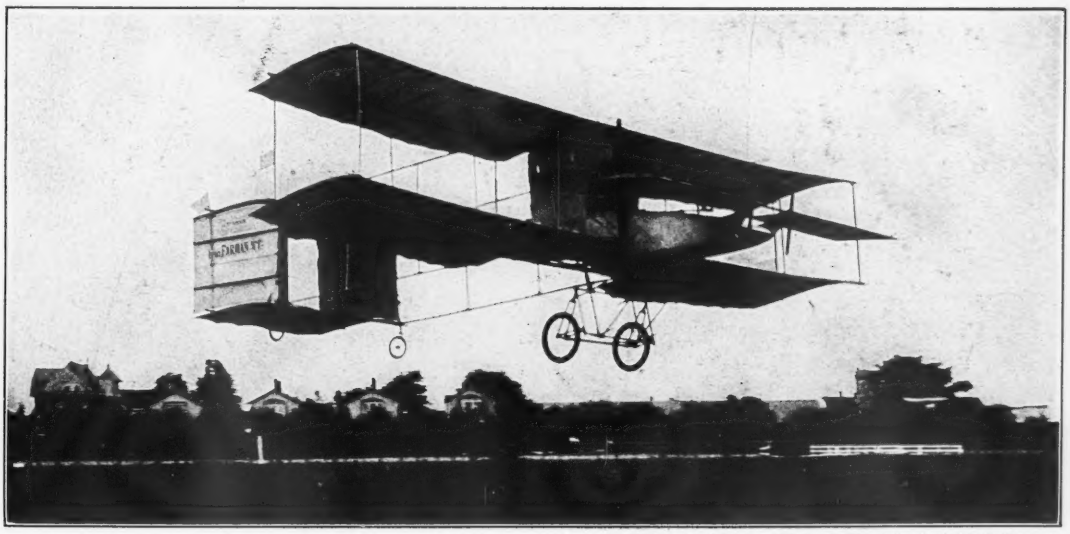
DR. ALEXANDER GRAHAM BELL

THE INVENTOR OF THE TELEPHONE AND EXPERIMENTER IN AND ENCOURAGER OF AERIAL NAVIGATION



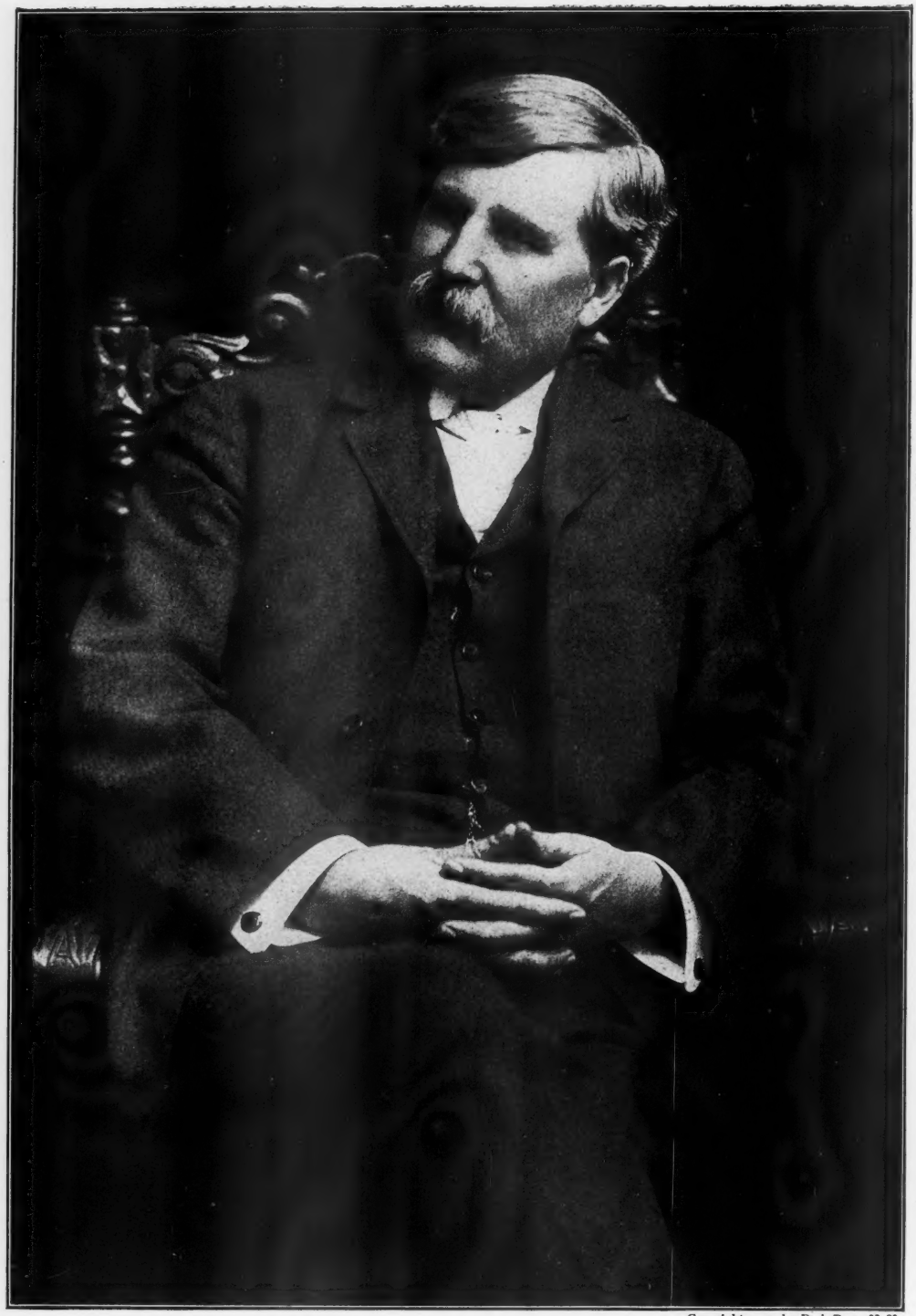




Photographed for THE WORLD'S WORK, by A. Radclyffe Dugmore

MR. HENRI FARMAN'S FIRST FLIGHT IN THE UNITED STATES

THREE VIEWS OF HIS AEROPLANE IN ACTION, TAKEN LATE IN THE AFTERNOON, AT BRIGHTON BEACH, L. I.



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PRESIDENT OF THE GENERAL EDUCATION BOARD

PROFESSOR A. LAWRENCE LOWELL

OF HARVARD UNIVERSITY, AUTHOR OF "THE GOVERNMENT OF ENGLAND"

THE START OF THE MARATHON RACE

The great endurance contest of about 26 miles

JOHN J. HAYES, I.-A. A. A.

Finishing the Marathon Race in 2 hours, 55 minutes and 18 seconds. He was the second to cross the line. Dorando, the Italian, who finished first, was disqualified

MELVIN W. SHEPPARD, I.-A. A. A.

Finishing the 1,500-metre flat race in 4 minutes 3⅕ seconds. H. A. Wilson of England, just behind him, looked an easy winner until the last few yards

MELVIN W. SHEPPARD, I.-A. A. A.

Breaking the world's record in the 800-metre flat race. He ran on and finished the half-mile, breaking the world's record for that distance also

RAY C. EWRY, N. Y. A. C.

Who won the standing high jump with a jump of 5 feet 2 inches

C. J. BACON, IRISH-AMERICAN A. A.

Clearing the last hurdle in the 400-metre hurdle race and finishing just ahead of his team-mate, R. L. Hillman, in 55 seconds

H. F. PORTER, I.-A. A. A.

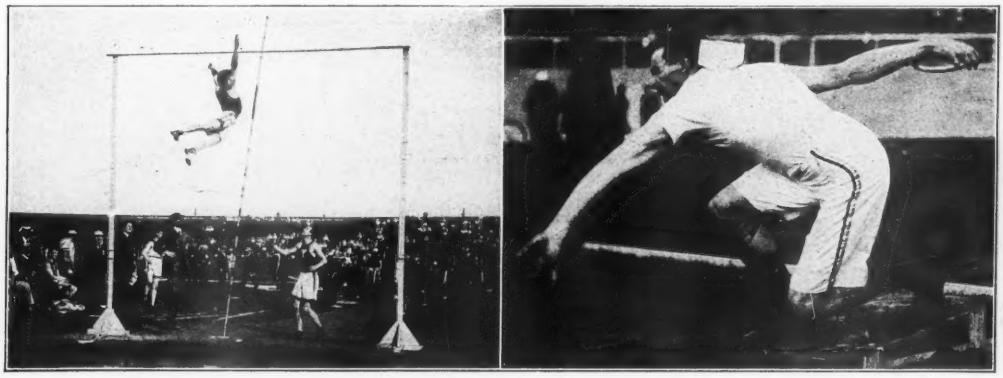
Who established a new Olympic record of 6 feet 3 inches in the running high-jump

SOME AMERICAN WINNERS OF FINAL HEATS IN THE

RAY C. EWRY, N. Y. A. C.
Who won the standing broad-jump with a jump of 10 feet 11½ inches

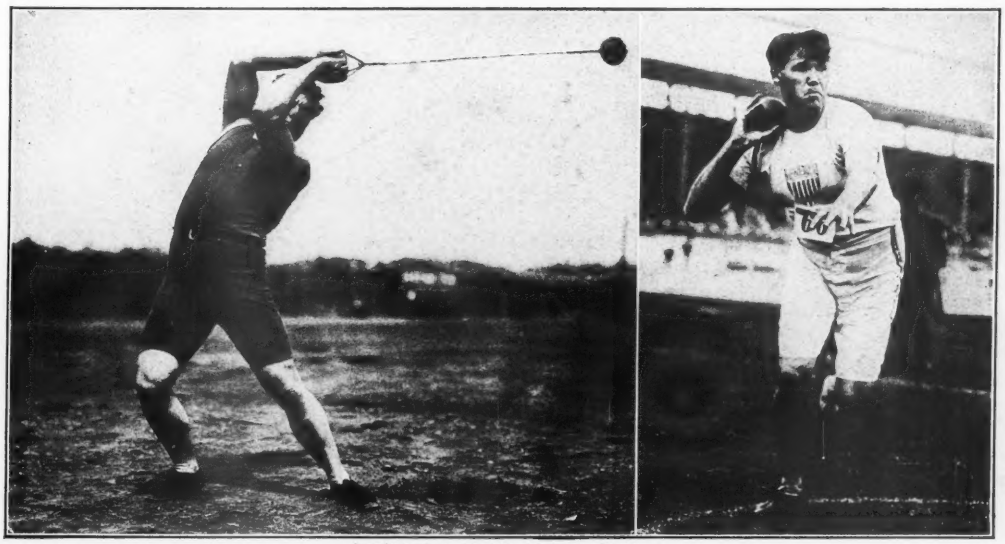
THE RIFLE TEAM THAT WON THE SHOOT AT BISLEY

F. C. IRONS, CHICAGO A.C.
Who made a new Olympic record in the running broad-jump: 24 feet 6 inches



A. C. GILBERT, YALE
Who tied for first place in the pole-vault with his team-mate E. T. Cooke, of Cornell. They cleared 12 feet 2 inches, making a new Olympic record

MARTIN J. SHERIDAN, IRISH-AMERICAN A. A.
Perhaps the most consistent performer in present-day athletics, winning the discus throw. He was first in that event in both the Greek style, 124 feet 8 inches, and the free style, 134 feet 2 inches



JOHN J. FLANAGAN, IRISH-AMERICAN A. A.
Who won the hammer-throw with 170 feet 4½ inches

RALPH ROSE, FORMERLY U. OF MICH.
Who won the shotput, with 46 feet 7¼ inches

OLYMPIC GAMES AT SHEPHERD'S BUSH, LONDON, ENG.

Photograph, 1908, by Davis & Eickmeyer, N. Y.

MR. JOHN D. ARCHBOLD

A PROMINENT VICE-PRESIDENT OF THE STANDARD OIL COMPANY

LINCOLN'S FIRST LETTER OF ACCEPTANCE

ON MAY 23, 1860, Abraham Lincoln wrote the following letter, accepting the Republican nomination for the Presidency, to the chairman of the committee appointed to notify him:

"SIR: I accept the nomination tendered me by the convention over which you presided, and of which I am formally apprised in the letter of yourself and others, acting as a committee of the convention for that purpose.

"The declaration of principles and sentiments which accompanies your letter meets my approval; and it shall be my care not to violate or disregard it in any part.

Imploring the assistance of Divine Providence, and with due regard to the views and feelings of all who were represented in the convention — to the rights of all the states and territories and people of the nation; to the inviolability of the Constitution; and the perpetual union, harmony, and prosperity of all — I am most happy to coöperate for the practical success of the principles declared by the convention.

"Your obliged friend and fellow-citizen,

A. LINCOLN."

Fashions change. It has now become customary to write very long letters, discussing every plank in the platform and many other things besides. But there was certainly as much at stake on the election of 1860 as there is on this year's election; and, if either candidate this year had followed Lincoln's example of brevity, who shall say but he would not have gained favor by it?

THE LARGE POLITICAL FORCES — NOT THE INCIDENTS

VERY early in most campaigns (and it has been so in this one, in particular) the platforms and the speeches of acceptance and all the official expressions of the parties are practically forgotten. They become merged in the personalities of the candidates. For a few days, perhaps for a few weeks, men discussed the injunction planks, for example, and each candidate in his speech of acceptance gave much space to them. Already the sharp points of the controversy are lost in the general feeling that Mr. Taft knows more about the courts and holds to their inviolability more strongly than Mr. Bryan; and that is all that they do recall. And that is enough to recall; for the election will turn on the general judgment that the voters make of the two men. Their characters and their temperaments are the platforms.

Moreover, the "labor vote" and the "Negro vote," and the vote of most other special classes are bugaboos. With few exceptions, the men who belong to labor unions are going to vote as they would vote if Mr. Gompers had never been born; and most colored men will vote as they would have voted if there had been no Brownsville incident.

The big fact is, the great mass of voters are Democrats or Republicans; and as a rule they vote with their parties. Consider these figures:

Popular Vote at Recent Presidential Elections

	1896	1900	1904
Republican	7,104,779	7,207,923	7,623,486
Democratic	6,502,925	6,358,133	5,077,971

The great Republican vote in 1904 was exceptional; but even this "landslide" hardly showed such a wholesale defection or gain as some men always think may happen at the next election.

And it is the large influences — not this plank, nor this "vote," nor that local cause of displeasure or of popularity — that determine the election. The big facts this year are the popularity throughout the country (outside the "corporation centres") of the present administration and its policies and of Mr. Taft as a representative of them, the general feeling of confidence in his courage and his fitness, his personal popularity, and the pride that the Republican masses feel in the party's control of the Government. On the other side are the personal popularity of Mr. Bryan, and the strong habit of Democrats to vote the Democratic ticket. Side issues and incidental reasons will count for little under such nearly normal conditions; and the stronger party and the stronger personality will win — for these large reasons and in obedience to these large laws. Remembering these things, you may spare yourself from seriously considering the large headlines that the newspapers will put over reports of incidental events as the election draws near.

IS THERE "A WAVE OF RADICALISM?"

A WAVE of radicalism in the Middle West is thought to be favorable to Mr. Bryan. Is there such a wave? There is a deep-seated distrust in the interior of "Wall Street";

and by "Wall Street" is meant, of course, the great aggregations of money, the big industrial corporations, the big railroads, and the big banking houses. There is always a feeling, dormant if not expressed, that much of the profits of the interior somehow go to "Wall Street"; and this is true. When an industrial company or a railroad or a municipality wishes to sell its stocks and bonds, it takes them there — often to be bought by investors who themselves live in the interior. And many men in the West move to "Wall Street" as soon as they accumulate money.

But many things have happened lately to prevent such a feeling of discontent as spread over the agricultural states when bad crops and hard times caused the foreclosure of many farm mortgages. In the first place, there are now fewer farm mortgages, and the mortgages are paying their interest. The farmers are prosperous.

In the next place, the great corporations have for some time past been the sufferers from popular clamor, both for real and imaginary sins, until it is now they that have reason to complain of the people as represented by the Government rather than the people of them. If there is any "wave" of discontent, it is in "capitalistic" regions now.

Of quite as great importance, likewise, is another change that has come in recent years. "Wall Street" is yet the great financial centre of the country, and will remain so for as long a time as we now need to consider. But every other city, every town, every community, during the decade of high prosperity, itself became a sort of financial centre, strong enough at least to take care of its ordinary needs.

There are two perpetual causes of unrest and dissatisfaction: unfair or dishonest methods of the "money power" (for every unfair or dishonest method puts the burden at last on the people); and the natural jealousy which the unsuccessful feel of the successful at all times, but especially in times of depression. If these two causes of popular discontent are now inactive — and they seem to be as inactive now as they can well be — there can be no very great "radicalism in the Middle West," such as will be strongly operative in politics this year.

The mood for punitive legislation has already spent itself. Mr. Roosevelt and the legislatures and the Governors that took their cue from him have taken away the chance that a radical programme might have had. The dominant desire is for rest and "safety." Moreover, Mr. Taft—and the Roosevelt policies that he has helped to frame and to which he is pledged — is quite as "radical" as the present mood of the country.

Such incurable radicalism as exists will express itself in votes for the five minor parties, especially for the Independence party. Mr. Bryan's radical tendencies — toward the Government ownership of railroads, for example, and toward guaranteeing bank deposits and toward surrendering to Mr. Gompers — will repel more Democrats than they will attract Republicans. It is not a year of great discontent, and therefore not a year of "waves" of feeling.

MR. BRYAN'S LEGISLATIVE AND MR. TAFT'S ADMINISTRATIVE EXPERIENCE

THE offices that Mr. Bryan has held have all been elective. The offices that Mr. Taft has held have all been appointive. Mr. Bryan's official life has been wholly legislative. Mr. Taft's official experience covers every kind of service except legislative service. This is rather a curious contrast. The events in the public career of each follow:

Mr. Bryan, born in Illinois, March 19, 1860; elected to Congress from Nebraska 1890 and in 1892; defeated for the United States Senate; nominated for the Presidency in 1896, in 1900, and in 1908.

Mr. Taft, born in Cincinnati, September 15, 1857; collector of internal revenue, first district, Ohio, 1882-83; judge of the Superior Court of Ohio 1887-90; solicitor-general of the United States 1890-92; president of the United States Philippine Commission, from 1900 to 1904; first civil governor of the Philippine Islands, 1901 to 1904; Secretary of War from 1904 to 1908. He was sent by President Roosevelt to Rome in 1902 to confer with Pope Leo XIII. concerning the purchase of the lands of religious orders in the Philippines; has made official journeys as Secretary of War to Cuba, to Panama, to the Philippines, Japan, and China, and a trip around the world; nominated for the Presidency in 1908.

OPEN CAMPAIGN ACCOUNTS NOW

WHEN it came out that some of the great insurance companies had paid large sums to campaign funds, the public mind took firm hold on the scandal of such payments.

It became clear that the keepers of trust funds or similar institutions and corporations had no right to use money in this way unless (and this never happened) all the stockholders or beneficiaries consented. The public then woke up. A law requiring the publication of campaign accounts was made stronger in New York; and an act was passed by Congress, which is now first applicable to a national campaign, making it "unlawful for any corporation whatever to make a money contribution in connection with any election at which Presidential or Vice-Presidential electors or a Representative in Congress is to be voted for." Corporations violating this law are liable to a fine of $5,000, and any corporation officer or director who consents to any such contribution is liable to a fine of from $250 to $1,000, or imprisonment for a term of not more than one year, or both. Lawfully, therefore, no corporation can now contribute to either fund.

Both Presidential candidates before nomination declared themselves in favor of full publicity. And since then Mr. Taft has declared that the Republican committee, whose treasurer lives in New York, will comply with the New York law and publish, after the election, a full statement. Mr. Bryan promises to publish on October 15th the names of all persons who have contributed $100 or more; also, that contributions received after that date will be announced on the date received; and that no sum larger $100 will be accepted during the three days preceding the election.

These are positive steps forward. These laws may be evaded — to a degree. But the old method cannot come into scandalous use again. Presidential campaigns in the future must be conducted with their books open; and this is an incalculable moral gain.

LABOR'S DANGEROUS PART IN POLITICS

THE Federation of Labor, of which Mr. Samuel Gompers is the head, is a loosely organized body without individual members; for its membership is made up of labor unions themselves. It is a federation, not an organization of individuals. Its constitution distinctly forbids it to go into party politics. This is a wise provision because similar large labor organizations which went into politics wrecked themselves.

But Mr. Gompers is more belligerent than prudent; and, having failed to secure the labor plank that he wanted in the Republican platform, particularly the plank concerning injunctions, he went to the Democratic convention at Denver. There he was treated with more consideration, and the Democratic plank on this subject pleased him better, vague as much of it is and impossible of enactment. But it so far satisfied Mr. Gompers that, although he himself has hitherto been a Republican, he now favors Mr. Bryan and was understood as having promised to deliver the labor vote to the Democratic party. At Chicago, he says, "they gave me a stone," at Denver, "they made a concession to labor."

He declares that he never promised to try to deliver "the labor vote"; but his open activity is an effort to deliver it; and there his trouble begins. The labor organizations are said to contain something like two million men. It is very doubtful if they contain half this many voters; but, however many they may be, it has already become obvious that a great many of them, doubtless most of them, resent being "delivered." They are assuring Mr. Gompers that they propose to vote man by man as they please. So far has this revolt already gone that a rival federation of some of the unions is threatened.

It is therefore a very desperate game that Mr. Gompers is playing — for himself and his federation. Large labor organizations have almost uniformly been unsuccessful in their political efforts. Mr. Gompers himself tried two years ago, for instance, to defeat certain candidates for Congress, notably Mr. Littlefield of Maine; but he was not successful in a single one of these efforts. Labor organizations have been successful in political efforts only in municipal elections, that is to say, in restricted areas where they had very compact organizations; and the most notable case of their success, namely in San Francisco, is at the same time the most lamentable and disgraceful failure in municipal government that a city ever made. If, therefore, a judgment may be made by the past, Mr. Gompers is not only undertaking an impossible task, but he is running very great risk of wrecking his organization and of losing his own position and power. Certainly, as a practical influence on the election, he may be counted as a voice — not as a shepherd of votes. He is the more likely to turn out to be a misfortune to the Democrats, because in the Southern States, where the party is strongest, organized labor is least popular.

MAY THE DEMOCRATIC PARTY HAVE ANOTHER SECTIONAL SPLIT?

SOME of the Southern newspapers, notably the Charleston (S. C.) *News and Courier*, whose support of Mr. Bryan is half-hearted, not to say ironical, continue to bait him with questions about the Negro in politics. They ask, "If you are elected, Mr. Bryan, will you attempt to do anything to disturb the existing condition of the Negro in politics?" and they intimate to him plainly that if he should appoint colored men to office, he would commit an unforgivable offense. Mr. Bryan is silent on these questions. At least he does not answer to the point and with satisfying frankness. Whatever his own convictions are, he cannot afford to give the answer that these lukewarm friends of his in the South are trying to provoke him to give; for, if he should range himself with them, he would displease a very considerable part of the Democratic party in many of the Northern states. Fortunately for Mr. Bryan, his attitude on this subject is not of much practical importance so far as this election is concerned, but the discussion of the subject does suggest a very important inquiry touching the possible future of the Democratic party.

The South is the stronghold of the party; and, if the South should insist in the future that Democratic candidates for the Presidency shall approve of the total elimination of the colored man from politics, this would very quickly make the party more sectional than it is. If the Southern Democrats should insist upon this point, it may come about that the party will be split on the colored voter precisely as it was split half a century ago on slavery. The question is whether the total elimination of the Negro from politics and from office-holding is to have greater emphasis in the South than all other subjects.

THE STYLE OF PRESIDENTS AND CANDIDATES

THE epigram has played an important part in political discussion; and we have had such meteoric showers of them and of picturesque phrases in recent years that we shall miss them during this campaign. Mr. Taft is not epigrammatic. We shall not have from him such phrases as "the strenuous life," "the mollycoddle," "predatory wealth," "the spear that knows no brother," "the big stick," — and a thousand more. Where Mr. Roosevelt speaks of ethics, Mr. Taft speaks of the law. Nor can one imagine him minting an elaborate rhetorical coinage such as Cleveland's "innocuous desuetude," or "the cohesive power of public plunder," or sending up oratorical fireworks like Mr. Bryan's "crown of thorns and cross of gold." And Mr. Bryan himself becomes less rhetorical. The nearest thing to an epigram in Mr. Taft's speech of acceptance is the phrase, "the twilight zone between states' rights and Federalism," which he borrowed from Mr. Bryan. But Mr. Taft's style is preëminently clear and frank. He leaves you in no doubt about his meaning: it is unadorned clearness. In the volume of his addresses, "Present Day Problems," there is not an obscure nor an ornamental sentence. These speeches cover almost every important subject of the last decade — the achievements of the Republican party, the Roosevelt policies, an appreciation of General Grant, the army of the United States, China and its relations with the United States—and they all show his powers of clean-cut exposition and argument. His address on the Panama Canal, delivered before the Ohio State Bar Association in July, 1906, is probably the most comprehensive explanation ever given of that colossal undertaking. In his Cooper Union speech on "Labor and Capital," delivered early in the present year, he did not hesitate to express his opinions plainly on the most delicate problems before an audience to which many of his conclusions must have been distasteful. In Lexington, Ky., 1907, he spoke with equal frankness on the Negro question before a Southern audience. When our relations with Japan were a subject of world-wide talk he made a speech in Tokio, before a Japanese audience, which showed the same qualities. "It is said that there is one word that is never allowed to creep into the diplomatic correspondence between nations, however hostile; and that word is 'war,'" he declared. "But I am not a diplomat and am not bound by diplomatic usage. I can talk of war." And he proceeded to show plainly the absurdity of talk of a conflict between the two countries.

MR. HUGHES, A GREAT GOVERNOR

ONE of the most noteworthy cleansing and lifting influences in our recent political life has been the administration of Governor Hughes of New York. He does not belong to the politician type of man. He could never have become Governor, nor even have entered

public life at all, under ordinary conditions. He could not successfully seek the favor of the masses, for he cannot learn the arts of the politician. To the public he is awkward, unresponsive, unadaptable. He is a student with an ecclesiastical background, a somewhat remote and peculiar man. He has no sports that others enjoy with him. He has a cheerful philosophy of life, but it is framed in a sombre setting. A friend, who knows him well and prizes his friendship and has a high admiration for him, declined to give another good friend a card of introduction to Governor Hughes because (the reason for the visit had nothing to do with public affairs, directly or remotely) — because "Hughes is peculiar: he suspects his friends without meaning to do so." His strength lies in his orderly and conscientious industry and in his courage. He will do his duty unflinchingly, with a little additional satisfaction if it seem unpleasant. His essential strength as well as his temperamental weakness made him an impossible Presidential candidate.

But no state has had a better Governor than New York has had in him these two years. His entrance into political life was in answer to the popular demand for a man who could be trusted during the period of indignation and despondency and distrust that followed the great life-insurance scandal, and his unflinching conduct, as inquisitor, of the insurance investigation made him Governor.

He forced radical amendments to the insurance laws. He reformed the conduct of the state departments of insurance and banking. He forced the creation of public service commissions and the enactment of laws that put the Government above these corporations. He forced anti-gambling laws at the race-tracks. This is a remarkable record of achievement for two years, with the organized politicians of both parties and public and private plunderers of every kind in opposition to him. It is as noteworthy a public service as any Governor of any state can show, and the people of New York and of the whole country owe Mr. Hughes a lasting debt of gratitude.

He had made up his mind not to be a candidate for reelection because he can ill afford the financial loss that a man must suffer who serves as Governor of New York for $10,000 a year; for he faces a necessary deficit. And this is wrong. The state ought to pay a higher salary. Until it does, it will, as a rule, have as Governors men of fortune or men who wish to use the office as a political stepping-stone; and it will be hard for a man without fortune, whose chief ambition is to serve the state, to get the office.

But characteristically (that is to say, conscientiously), Mr. Hughes changed his mind and gave out this statement:

"Some time ago I said privately that I did not desire a renomination and that I felt that I could not undertake to serve a second term. This, however, was for reasons entirely personal. Upon further reflection, I am convinced that I have no right to regard these reasons as controlling, and that if renominated I ought to accept. But it is my desire that the will of the party to which I belong should be freely expressed and that it shall take such action as shall be most closely in accord with public sentiment. I believe that the people thoroughly understand the principles which I have sought to apply in administration, and, if they so desire, I shall regard it as a privilege and a duty to continue in office for another term."

That is the man, through and through. And if the state should not rise to the opportunity to reelect him, such a failure will mean only this — that it does not care for conscientious public service except by fits and starts. The good work that he has already done needs his continued service to extend it and to clinch it. For he is one of the best Governors that ever held the office; and the good influence of his administration on the public life of the whole country is well-nigh incalculable.

THE FLEET AND PACIFIC PROBLEMS OF THE FUTURE

THE reception of our fleet by our kinsmen of the Southern Seas had the enthusiasm of an unusual experience. But there was more than the conventional hospitality in their elaborate preparations and in their reception; and they did not suppress even some unwarranted conclusions. The Colonial Premier of New Zealand is reported to have said before the fleet arrived:

"The day will come when a great fight will be necessary for the supremacy of the white races in the Pacific, and when this time comes, Great Britain can have the assistance of the American fleet, and the two nations will be found fighting shoulder to shoulder."

This is a double prediction — first that there will be a war of races and that our kinship with the English will prove stronger than the solemnest international treaties.

This is a speech of colonial imprudence —

even of a sort of colonial violence. But the same expectation finds gentler expression, now in one way, now in another way, all over the world. To-day you will read it in France, to-morrow in Germany, at another time in England; and almost always you can find somebody in the United States, especially if you look toward the Pacific Coast, who has the feeling that at some time, in some way, there will be an open contest for supremacy on the Pacific between the Japanese and the Americans or the English. This remote fear of a race-clash lies deep in men's minds. It comes out not only on such an occasion as the reception of our fleet in Australia, but it is hinted at in the President's formulation of our naval policy in his speech at the War College; for although he did not mention any nation, he spoke of the possible dangers of sharp international differences because of immigration, and our gravest troubles about immigration are about the coming of men from Asia. This remote thought was in the minds of our Government and was suggested to the minds of every other government by the long voyage of our fleet to the Pacific. It is this remote possibility that makes it advisable, and indeed necessary, to have a naval equipment on the Pacific. It is this remote thought that will not down in spite of the fact that there is not the slightest danger of war for many years to come. But men will not forget that there is such a thing as race feeling. The Japanese probably would not welcome white immigrants into their empire even to the extent to which the Japanese have come to the United States or to Canada.

But it is not only criminal, it is stupid, to talk or to think about war with Japan within any early period; and, if you track the thought of it home in any direction, you will find an absurdity. In the first place, neither nation has anything to fight about nor any desire to fight. In the second place, Japan cannot afford war, for purely financial reasons, for a good many years to come. For a long time yet it will need to borrow money, not only for the further building up of its navy and its army, but especially for the development of its industries; and it must retain and strengthen its credit throughout the world. A war with any white nation would at once shut off the sources of financial supply.

Looking further into the far future — when the Japanese push harder for admission in great numbers to our country or to British North America or to Australia, and when they encounter fiercer opposition (if they do), there may be cause to fear real difficulties. But nobody has any sound reason to predict that even great difficulties of this kind may not be settled in peaceful ways.

PERFECTING FLYING MACHINES FOR WAR

IT IS a most remarkable thing — how the whole public, after long incredulity and indifference and even ridicule, is waking up to the keenest interest in flying machines. And our Government, too long neglectful perhaps, is showing a similar activity.

A million dollars for airships, or perhaps an odd figure a few hundred thousand less, will be one of the items in the War Department's budget to be asked of Congress at its next meeting. If Congress gives the money and puts itself on record as favoring the idea of preparation for fighting battles in the air, this will be the beginning of an aërial navy to comprise every type of air-craft that proves itself worthy. The U. S. Army Signal Corps, under Brigadier-General Allen, has already begun experiments with aëroplanes and a small dirigible balloon. If more money can be had, the Army will start at once the construction of a large balloon-house of sufficient size to accommodate two airships of the Zeppelin proportions and will then proceed to build one or two dirigibles, perhaps one of the French Lebaudy type and one of the Zeppelin design. A corps of engineers of ability will also be detailed to carry on, from the ground up, a series of exhaustive experiments, with apparatus to be made as they progress, to determine with all possible exactness the complex laws of aërodynamics, upon which rests the scientific designing of both dirigible balloons and aëroplanes. This investigation will go on hand in hand with field practice on the air-craft the Government already owns.

The aëronautical experts in our army now see more possibilities in dirigible balloons than they see in the aëroplane, which they think will have only excellent special uses in land fighting, unless new possibilities develop with practice. Although Captain T. S. Baldwin gets some good work out of his hundred-foot dirigibles, in comparatively quiet air, and Mr. A. M. Herring believes that he can build an aëroplane to carry twenty men, it is now generally taken as an axiom that efficiency

goes with smallness in the case of the aëroplane, and that the bigger you make dirigible balloons the more efficient and the more manageable they are in all kinds of weather. Some military aëronauts who are not given to fanciful speculation speak seriously of the possibility of great balloon-craft of the Zeppelin plan a thousand or more feet long and armored, as well as armed with big guns. They say that a balloon's lifting capacity increases as the cube of its length and breadth, doubling either making the balloon lift eight times as much. The resistance offered by the air to such balloons, they say, varies only as the square, doubling length or breadth making the power necessary to drive at a given speed only four times as many horse-power. Thus, with every increase in size, comes a surplus that can be used either in carrying more powerful engines for developing higher speeds, or in carrying heavier loads in the way of armor and guns.

But it is right now the intention of the Army to ask only for the air-craft that has proven itself efficient, and it will be some years, if ever, before our war balloons will carry armor plates; and a coat of aluminum paint will be their only protection against bullets. Our present methods of range-finding will have to be improved so as to determine the range of an object coming at an uncertain height in air before big guns can "find" either aëroplanes or dirigibles. The costs of air-fleets are high. The Zeppelin ship is to cost Germany a half a million, and the reported costs of the French balloons like *La République* are in the neighborhood of a quarter of a million. Brigadier-General Allen thinks the costs of construction of these, since we will not spend anything in experimental construction, ought to be much less than the reported figures in Europe. Aëroplanes should cost about $5,000; they can be built for less. England, Germany, France, and even Russia have been spending large sums in aërial preparation. Congress will decide whether Uncle Sam can afford to spend a million in learning how to spend some more millions in the development of a kind of warfare that may in the end do away with all wars because of its possibilities of destruction.

THE GREAT STANDARD OIL FINE

THE United States Circuit Court of Appeals for the Seventh District (Judge Grosscup delivering the opinion) reversed the finding of the District Court (Judge Landis) in the case against the Standard Oil Company of Indiana, which was convicted of accepting concessions from the Chicago and Alton Railroad Company on shipments of oil — contrary to the Elkins law — and fined more than 29 million dollars.

Every well-informed man expected such a result, not only because this fine was egregious and confiscatory, but because some of the most important evidence was excluded by Judge Landis, and his imposing of the fine seemed to show an extra-judicial temperament and state of mind. The net result on the commercial community here and abroad was that if any corporation can be convicted in this way and punished in such excessive measure, corporate property has no security. To the lay mind, the conviction and the sentence seemed sensational, confiscatory, and rather a judgment by public clamor than by the impartial processes of law. The reversal was expected. It turned on three main points:

That the Standard Oil Company of Indiana should have been allowed to show that it did not know of the published rate.

That the fine should have been based on the number of shipments, not on the number of cars.

That Judge Landis abused the discretion vested in the court when he fined a $1,000,000 corporation $29,000,000 in an effort to reach a corporation that was not before his court.

The decision delivered by the Court of Appeals not only reverses the lower court for these reasons, but is a direct rebuke to Judge Landis. It goes on to say:

"The Interstate Commerce Act, important as that law is, is not the only law under which we live. We live under a guaranty that reaches back to the beginnings of our law, and is securely planted in every constitution of civilized government, that no one shall be punished until he has been heard and above this fundamental guaranty there can be set no higher prerogative; for let it once come to pass that under the stress of enforcing commercial equality any power in the Government may override the fundamental human right of being judged only after having been duly tried — a right just as essential to men in the associated relationship of the corporation as to the men in the relationship of copartners, or to men individually — there will remain no commerce worth the name to safeguard. The beginning of commerce is constitutional government, and the foundation of constitutional government is the faith that every guaranty of our institutions, no matter what the provocation, will be sacredly observed."

The finding of the lower court was the more unfortunate because the defendant is a great corporation that has been judged guilty in the court of much newspaper and magazine argument and of a large section of common opinion. For this reason, the case has provoked during its progress a vast deal of popular clamor and much prejudice. It is always unfortunate when these untrustworthy feelings become mingled with questions of law and equity. It was for this reason, no doubt, that the Court of Appeals felt called on to deliver a very sweeping opinion — a sort of modern rescript of one part of Magna Charta.

The case will — as is proper — be argued again by the Government. The Court of Appeals made it clear that the defendant should be allowed to mitigate its offense by pleading that it was ignorant of the filed rate. Such a plea will be likely to reduce the penalty to the minimum fine of $1,000 per count, — instead of $20,000 — if another conviction should follow. The court also makes it clear that the basis of imposing a fine should be shipments, not carloads. On this basis, the 1,462 counts of the first trial will probably shrink to less than two hundred. The new trial, even in case of a conviction, will therefore probably result in a fine of at most a few hundred thousand dollars.

But the amount of the fine is not the point of importance. The important question is whether the Standard Oil Company of Indiana is guilty; and the reversal of Judge Landis by the Court of Appeals is not the final answer to that question. Thoughtful public opinion will withhold its judgment till the last decision of the courts is rendered.

President Roosevelt has been quoted in the newspapers as saying that the decision of the Court of Appeals is, in effect, a miscarriage of justice — to the regret of most thoughtful men. Granted if you like either that Judge Landis was right and the Court of Appeals wrong, or that the Court of Appeals is right and that Judge Landis is wrong. Any man is entitled to hold either opinion. But it is unfortunate that any high officer, whose opinion will affect public feeling, should criticize the courts so as to bring them within the range of popular, sentimental judgment.

If the Standard Oil Company has violated the law in this case or in any other case, let it be punished, as every law-breaker ought to be. But let the question of its guilt and of its punishment be legally determined, and, when the proper courts have given their decisions, let the courts be held in respect. One court is the proper official critic of another court; and there is no other proper official critic.

FROM CITY TO FARM — SOME INTERESTING FAMILY EXPERIENCES

THE WORLD'S WORK has never even made mention of the need of sending families that are willing to work out of the city to the country but that it brought a number of letters and suggestions. One of the most hopeful correspondents is the Homeseekers' Association of Chicago, which holds public meetings at which the opportunities in the country are explained by speakers and by pictures; and the association finds country homes for capable people who seek its help. Its managers soon discovered that the effort to move families as a charity (by giving them fare and expense-money) proved a failure, "not because they were imposed on by undeserving people to any great extent, but because the city man of that character when transplanted to the country needs careful and intelligent supervision for some time, till he has learned enough of country life and work to stand on his own feet."

The most hopeful plan found is to work with the assistance of a corresponding organization in the country, composed of business men who will help the newcomers to earn land and homes. One such organization gives them farm work by the day when needed, and supplies tools and builds cabins and gives aid in such practical ways — on a business basis.

"One thing that perplexes and worries us is the land fraud." If men who have good farm land would help town-workers to buy it, at a reasonable profit, giving helpful supervision in the meantime, this would go far to solve the problem. Again, you observe, as you will observe before you go far in all such studies, the crying need is of a better organization of rural life. To relieve the crowding of the cities it is necessary to have country life itself organized to help the coming of men and families by whose success the communities whither they go will profit. The country must call. The city cannot drive.

Another worker in this good cause, in Brooklyn, N. Y., writes: "You may care to learn the results with three Brooklyn families."

"One family, father age 38 years, mother, two sons ages 14 and 12, and three daughters ages

16, 10, and 8. The man was a printer. This family was sent to Maine, and placed on a farm that had not been worked for two years. The farmer who owned the adjoining farm agreed to pay for the service of the father and two sons at $60 a month, and to supply house and milk and vegetables. The rent of a five-roomed house was $6 a month. The oldest daughter hired herself out to a doctor's family for $12 a month. I visited this family who had been city-bound all their lives, to learn from their own lips how the change agreed with them. The general verdict was, 'No more city for me.' The man said, 'We are just becoming farmers and next year our labor will be worth much more!'

"Another family, a man, his wife, two small children, and the wife's brother, the men both teamsters. This family was sent to New Hampshire. Both men were hired by the same farmer for $65 a month and board for the family, with the use of a cottage. They consider themselves very fortunate and have no desire to return to the city.

"Another case was that of a young man who had farmed in the West. Two years ago he came to New York and became a shipping clerk but was thrown out during the depression of last winter. He was sent to a large hay, potato, and fruit farm in New Hampshire. The farmer had agreed to pay him $40 a month and 'keep'; but soon after he arrived a neighboring farmer offered him $50 a month, and his employer was forced to pay him that amount to keep his services.

"I have yet to learn of any case where the family or individual is not contented."

HELPING YOUNG MEN TO FIND THEMSELVES

A THIN, weak, unhappy youth, nineteen years old, who had been successively office boy, florist's helper, and delivery wagon driver for different firms, without being able to make any progress or even to retain his job, called at the Vocation Bureau in Boston for advice. It soon came out that he was very fond of drawing and spent much time with his pencil. He received helpful suggestions about developing his talent and he was able soon to secure work that he enjoyed in a sign-painting shop — the first work that he had done with enthusiasm.

Another young man who brought his perplexity to the bureau was a bookkeeper. He had lost interest in his work and wondered why. It came out that he had a passion for machinery and spent his spare time reading the mechanical journals or making things with tools. He was happily started by the bureau course of mechanical study, and found a new position which brought him into contact with machinery.

A young man of twenty-two years, who was employed as assistant buyer in a department store, laid before the bureau his rather vague ambition to become a lawyer. He proved to be moderate and non-aggressive intellectually; he had a poor memory, he was not fond of argument, and he had little talent for public speaking. He was told that he lacked most of the qualities of a successful lawyer and he was advised to drop his evening law studies and to apply himself to a study of his business with the idea of becoming a full-fledged buyer. He saw the good sense of this advice, and realized that his future lay in the store in which he had already made a good start.

These instances illustrate the workings of this Vocation Bureau, an organization established in Boston by private philanthropy, to assist young men and women in finding out the work for which they are best fitted, in preparing themselves for it, and in getting a start. The bureau applies common sense to the problem, which puzzles many a young person, of selecting a vocation. The persons who come for consultation are examined by the counsellor of the bureau, who makes a diagnosis of the case and gives a prescription based on mature experience and shrewd common sense.

It is apparent that there is a valuable place in the life of a great city for an organization which shall act as a vocational pathfinder. Many a young man chooses his occupation in such a haphazard manner that he is fortunate if he does not squander several years knocking about in various places before he finds himself and starts at the work for which his aptitudes and capabilities best fit him. He is unable to make his first selection with the intelligent care that its great importance demands, and the result is an enormous economic waste. The young man misplaced is the cause of a loss of huge sums annually to employers, as well as of wasted or partially wasted lives to the workers themselves.

LORD CROMER AND HIS PROPHECY

A SHIVER ran for a day through Europe when Lord Cromer declared, in the House of Lords, that well-informed men regarded it as certain that a great war would be forced upon Great Britain within a few years. Although no man in high authority has expressed a similar view, and many have disclaimed sharing Lord Cromer's fear (of Germany, of course), his remark will be

remembered for a long time. Just when it was made the British navy was going through its manœuvres in the North Sea with a fleet of 315 warships, the largest that was ever assembled. It is worth noting that the fleet was directed by the Admiralty Board in London by means of wireless telegraphy. Lord Cromer's unpleasant remark was made about the same time, too, that a bulletin was issued by the general staff of the German army which ought to make any thought of war by any civilized nation impossible; for it showed the incalculable destructiveness and horror of war with the use of the destructive machinery that the great nations now command. This official bulletin declared, for instance, that the German army could put four and one half millions of troops in the field, and that a war between Germany and any other European power would cost Germany $1,500,000,000 a year in addition to the indirect loss through financial depressions and the stopping of industry, and that the modern engines of slaughter are so efficient that more than 20 per cent. of an army would reasonably be expected to fall in battle. In other words, during the first year of a war with any European power, Germany would lose 900,000 men.

About the same time, too, our new Ambassador to Germany, who is a distinguished scholar in diplomatic history, pointed out the great change that has recently taken place in the functions of diplomatists. Formerly it was their first duty to emphasize the complete sovereignty of each state as if it existed for itself alone, and each one had it as his main duty to strengthen his own state by weakening others. Now the best diplomatic equipment is a wide knowledge of history, and the service expected of Ambassadors and Ministers is to prevent conflicts. It is analogous to the modern service of the lawyer, which is rather to prevent litigation than to encourage it. The gist of Dr. Hill's argument was, "that all states more and more belong to a real family of nations and that the interest and the happiness of the whole family are to be considered on the same parallel with the interest and happiness of individual countries."

Between the spread of an enlightened doctrine like this and the undoubted growth of peace sentiment throughout the world and the perfection of the machinery of slaughter, including wireless telegraphy, noiseless guns, and the rapid development of aërial navigation, there does seem a fair chance that the great nations of the earth will, at least for a long time to come, refrain from war with one another.

WILL ENGLAND SURRENDER TO SOCIALISM?

IF THERE are worse evils than a stationary population, one of them surely is a population so dense and so economically weak as to call for old-age pensions from the government; and this is what they have come to in England. For Parliament, when this is written, is working on the details of such a measure, the main proposition of which has become a law — a measure which provides that every man who has reached seventy shall have a certain income from the public treasury if his own income fall below a certain minimum, and that he shall be maintained by the public if he have no income at all. Germany has an old-age pension scheme (a plan whereby the beneficiary must himself contribute to the fund, in part), and there has long been an increasing pressure for the enactment of a similar law in England. But it came with a suddeness that was unexpected. Nor did it come as a direct Labor measure, but rather as the result of socialistic agitation in England, where socialism has shaped the thought of so large a part of the population. The estimates of the cost of such an old-age pension scheme to the Government varies from $35,000,000 to $57,000,000 a year. Chronologically and logically the plan is a sequel to the elaborate system of poor laws which is a part of the English social and ecclesiastical as well as political scheme of things.

The worst feature about the enactment of such a law is not the burden of taxation that it imposes, nor yet the tendency toward a more complete socialistic scheme of government; but the main fact is that it indicates a fundamentally wrong economic system of life. If men cannot earn enough to provide for old age or during their productive period cannot build up families — families who can and will take care of them — if they have not the same facilities and tendencies to save that they have to spend, and if wages and earnings are too low to allow the possibility of saving for old age, then there is something radically wrong in the economic organization of society. The wrong thing may be an improper organization of industry, or it may be the old division of men into fixed industrial as well as social classes. Be the

cause what it may, the result shows that there is not free play for individual initiative and individual ability, and there is not a fair return for individual enterprise and efficiency. As a symptom of a deep-seated economic disease, England's coming to an old-age pension law is far more significant than it is as a palliation of poverty or an additional burden on the public purse.

All this is true; else, the economic philosophy which the English race has hitherto based its scheme of civilization on is wrong, and socialism is the hope of the future.

A COUNTRY THAT HAS NO PAUPERS

ACROSS a narrow sea from England is a little country which, though densely populated, has practically no paupers, nor do the people emigrate. This is thrifty Belgium, where there is thrift of the individual, thrift of the family, coöperative thrift, national thrift, and prosperity in the face of the keenest competition of its powerful neighbors, England, France, and Germany

The Government, instead of paying old-age pensions and dispensing charity, has machinery for the encouragement of thrift and thereby for the prevention of dependence. It pays the individual interest on his savings, it insures his life and it will give him an annuity if he save to pay for it.

II

In the Government Savings-Bank, deposits may be made in every post office of the kingdom and in all the branches of the National Bank. The minimum deposit is one franc. There is no maximum. Deposits are made by special adhesive deposit stamps, which are, in reality, receipts for the money paid in, and which are pasted in a bank book delivered to each depositor free of charge and bearing an official number. In this book is entered every transaction between the depositor and the bank, including the calculating of interest, which is done annually. Depositors may correspond with the National Savings-Bank free of postal charges and, after the issue of a book, a depositor may put money in any post-office of the kingdom.

The Government provides in a special way for those who cannot put aside so large a sum as a franc at a time. It authorises smaller deposits by postage stamps in order to encourage school children, farm laborers, and the like; and rural postmen carry with them the necessary forms for this purpose, and urge the public to make use of the savings-bank in this way.

Life annuities may be contracted for at all branches of the savings-bank, at all branches of the national bank, at all post offices, and at the offices of all tax receivers.

The minimum payment that may be made is one franc, and the smallest annuity paid by the fund is one franc, while the largest is twelve hundred francs. The annuities become payable at the end of each completed year from the age of fifty to sixty-five.

Annuities are contracted for in two ways, by paying in the capital benefit to any heir, and by providing that the capital, less 3 per cent. for general expenses, shall be paid over to the heirs after the death of the beneficiary. Any person who depends solely upon his own work for his sustenance, and who, before the age stipulated for the payment of the annuity, becomes disabled, is allowed to draw at once an annuity calculated from the amount of the payments made up to the time of his becoming incapacitated.

In addition to the annuity fund there is a Government insurance fund, the management of which is under Government guarantee. Life or endowment policies may be contracted for, the latter payable at the end of ten, fifteen, twenty, or twenty-five years, or for a period ending at the ages of fifty-five, sixty, or sixty-five.

III

What then has been the result?

This policy has instilled ideas of thrift in the minds of the schoolchildren, it has driven thrift into the household where the income of the husband, or of wife and husband combined, is rarely spent, and in most cases a liberal margin is left for the future. The people live within their incomes. "Our income," they say, "is so much a year; we must live within it and put away something for our old days."

Among English speaking people, this is the habit: "We must have this and that and go here and there, and so we must bring our income up to that mark at all hazards."

But the Belgian household enjoys contentment and awaits with patience a larger income before buying this and that and before going here and there; and they do not try to keep

the pace set by those whose means are greater. The observer sees on every hand men and women, still with the freshness of youth, who have retired from active, bread-winning work, and are enjoying life on the capital saved by reasonable economy. They have enjoyed life in moderation, they have traveled a little, many of them are familiar with art, music, literature, and the drama, but they have wisely avoided that continuous brain-racking, nerve-straining struggle to surpass their neighbors. They have lived wisely — neither slaves nor prodigals — and their declining years are provided for.

It is sometimes said that such a plan of life discourages initiative and enterprise. Yet Belgium holds its own in the industrial and commercial world; its capital is an important financial centre; the nation is most prosperous and many individual fortunes are large.

The opinion of the Belgians is that this spirit of thrift would not have been thus developed had the savings-banks been private concerns and had the Government left annuities and insurance to be managed by private enterprise. It is the absolute security offered by the Government that has developed the desire on the part of the people to save and to entrust their money to the national provident institutions, when not invested either in industry or trade. They contend that Belgium is prosperous to-day and that she is a land practically devoid of paupers because of this Government policy.

RENEWED LIBERAL GOVERNMENT IN TURKEY

THE liberalization of governments proceeds, as most other large movements in human society proceed, by waves rather than by a steady march. The remarkable progress of Japan has caused us to forget how new its system of constitutional government is. Russia is taking yet uncertain initial steps with its Duma. Persia is so remote from the United States that we only dimly understand the movement — back and forward — for constitutional government there. Now, constitutional reform is again promised in Turkey, this time with better hope of success than in 1876. For the announcement of a liberal government by the Sultan is not a new but a renewed event. The constitutional government then drawn up and set going (there was a meeting of Parliament in 1877) was cut short by the Russo-Turkish war; and at the close of the war the old régime was resumed. The parliamentary, or liberal party, however, has existed ever since, and it is known as the Young Turk party. Its efforts have been continuous and persistent; and, although recent disturbing events have provoked little attention at a distance, the Sultan was in reality forced to yield. Thus, some of the main causes which prevented the success of the experiment more than thirty years ago are not now operative; and, although skepticism is expressed in many well-informed quarters of the world, there is at least a chance that a more or less free government may have an opportunity now to work itself out. The growth of disaffection in the Turkish provinces and its influence at home, as well as the gradual push of liberal events, made some such change inevitable.

The chief provisions of the liberal government that is promised are the usual ones of a parliament, of a just system of taxation, of individual liberty, of religious freedom, and of real courts of justice. The people, as a rule, are not yet trained to such a system of government and they will make but slow progress in the use of some at least of these modern tools. But, if the constitution last long enough for the new machinery to get well in motion, it will be difficult to turn the clock back again. One favorable circumstance is that the army is favorable to the new order of things. If this remain so, it will be difficult to use it in any crisis to force the country back under an absolute monarchy. Amnesty was declared of all political exiles, and the ranks of the Young Turks will be strengthened by many men who have been living in other lands.

This renewed experiment in Turkey is the more interesting because the Sultan is the spiritual as well as the temporal head of the nation; and whether a really liberal government can be developed under Mohammedan institutions will be an interesting thing to watch.

TOLSTOI'S VAIN CRY FOR MARTYRDOM

IN THE sober judgment of the world, Count Tolstoi will be regarded as an unbalanced great man, not because his fierce spirit of human sympathy drove him into eccentric ways of living, but because he hopes for the betterment of the race by a primitive economic — or uneconomic — creed that is outworn.

Yet there is no other such man now living, no other who can speak to the whole world in

such tones of moral indignation and be heard everywhere outside his own land. Surely there is no other subject of the Czar who could so speak without provoking the vengeance that would give power to his vain cry. In his recent letter addressed to all the public officers of Russia, which he called "I Cannot Be Silent," he cries out to them to stop the killing of men, and he puts the blame upon all who are in authority and the higher the authority the greater the blame.

"You say you commit all these horrors to restore peace and order.

"By what means do you restore them? By the fact that you, representatives of a Christian authority, leaders and teachers approved and encouraged by the servants of the Church, destroy the last vestige of faith and morality in men by committing the greatest crimes — lies, perfidy, torture of all sorts, and the last, most awful of crimes, the one most abhorrent to every human heart not utterly depraved — not just a murder, a single murder, but murders innumerable which you think to justify by stupid references to such and such statutes written by yourselves, in those stupid and lying books of yours which you blasphemously call the Laws.

"What you are doing you do not for the people, but for yourselves, to retain the position you occupy, a position you erroneously consider advantageous, but which is really a most pitiful and abominable one. So do not say that you do it for the people; that is not true! All the abominations you do are done for yourselves, for your own covetous, ambitious, vain, vindictive, personal ends, in order to continue a little longer in the depravity in which you live and which seems to you desirable.

"However much you may declare that all you do is done for the good of the people, men are beginning more and more to understand you, and ever more and more to despise you, and to regard your measures of restraint and suppression not as you wish them to be regarded, as the action of some kind of higher collective being, the Government — but as the personal evil deeds of separate evil self-seekers."

The pathetic fact about it all is that this is read everywhere but in Russia. The public whose indignation he is trying to arouse have no chance to read him; and the Emperor and the bureaucracy and the hierarchy whom he condemns give him the severest punishment by refusing the martyrdom that he prays for. The voice crying in the wilderness arouses nobody who can help. There was never a more pathetic proof of the futility of a moral impulse detached from all power.

"RACE SUICIDE" OR "OVERCROWDING"

MUCH talk about "race suicide" has done something to produce a popular impression that a population is valuable in proportion to its numbers — a fallacy that our industrial life also has encouraged. This, of course, is not always true. Perhaps it is not true at all except in sparsely settled countries. Nor is it true that the slightly shrinking population of France is necessarily a proof of national decline.

For the last forty years of the last century the French population was practically stationary, and during the present century it has decreased.

The decrease last year was about 20,000. Yet nobody can say that the French people have slipped back in civilization or in efficiency during the last half century. During that time they waged a great, disastrous war and they paid the enormous war tax; and the securities of their government now stand higher in the market than the securities of the government that defeated them.

The population in France increased between 1866 and 1906 only from 38,000,000 to 39,000,000. During the same time the population of Great Britain increased from 30,000,000 to 42,000,000. During those forty years England made great strides, but it would be difficult to prove that its advancement was relatively greater than the advancement of France. Certainly the problems of poverty and overcrowding which press the English hard have not been felt to the same extent by the French. Men, therefore, who wish to think clearly rather than to accept popular phrases for thought, will be disposed to look far beneath the surface before they uncompromisingly accept the doctrine that a country is great in proportion to its density of population, or that a stationary population is, under all conditions, an evidence of decline. Although the French Government is troubled by the decrease of population and makes unsuccessful efforts to prevent it, there is a large and strong body of opinion which favors the restriction of population. Those who hold this opinion regard the numerical decline of the French as a hopeful experiment — an experiment in putting the emphasis on the quality of men rather than on their number.

Probably the strongest force that makes for small families among the French, and among the richer classes of people in almost every country, is not the smothering of the parental

instinct nor the shirking of parental responsibilities so much as it is the appreciation of the individual as distinguished from mere numbers. Ambitious parents prefer to make sure of the proper training and the proper equipment for life of a few children than to run the risk of less good opportunities for more. In this feeling both worthy and unworthy methods are doubtless combined, but our age of civilization is an age when far more attention is paid to the individual than in times when the number of fighters or even the number of workers was more important than their quality. Surely the cry that is raised about the decline of births in families of good American stock is hardly warranted as a sweeping complaint, for the rule is that those families which show the most vigor in other ways show vigor also in perpetuating themselves.

APROPOS THE OLYMPIC GAMES

THE American team won the track and field events of the Olympic games in London by a score which was greater than that of all the other competitors combined. Its nearest rival, the team of Great Britain, was 48 points behind it. The American team broke records. It was successful also in the longer races in which formerly the English have been our superiors. All this is gratifying to our pride.

But with this feeling of pride in the winners must go a keen regret that there was ill feeling and misunderstanding which brought the Olympic games this year down from a friendly and sportsmanlike rivalry to a much lower plane.

The occasion afforded many unusual spectacles, and there were great feats of skill and strength and endurance. Yet the really educative value or high benefit of the contests of any sort would be hard to find. What we want for the building up of physical efficiency is such an attitude toward athletics and exercise — such a system of life and training — as will make suppleness and grace and strength and health, and endurance the aim of everybody, a necessary part of life.

It is better for any nation that a dozen of its young women who will bear children should be perfect women in health and strength and grace than that a dozen young men should win prizes in a dozen violent spectacular contests. It would be better yet that practically all the young men and young women of any nation should be physically trained in normal ways. In fact this is far more important than that they should all be taught to read, to write, and to cipher. Do great athletic events and international contests bring us any nearer to understanding this plain fact — that a good body is far more important for any human being than any quantity of facts drilled into the mind? Having made sure that the body is good and will be kept so, what we now call "education" might then begin and be tolerated even in many of its present forms. But any people that had good bodies would not long need to tolerate much that we now do in the name of "training the mind." It would fall away of its own accord in any society of such physical efficiency as to give the brain and the belly a fair chance for clear thinking and perfect digestion.

A MENDING OF CORPORATION MANNERS

NOT long ago the Pennsylvania Railroad Company ordered that every accident and the name of the man who caused it or permitted it should be posted on its bulletin boards; a corresponding rule was even earlier issued by the Union Pacific Railroad Company; and the president of the street-railway system in New York has given orders that the news of every accident of consequence be promptly given to the newspapers. Perhaps other roads have followed these good examples.

These orders seem little things, but a very important principle is involved in them. You cannot find a man who has not had the exasperating experience of the train stopping, and of brakemen and conductor remaining silent or evasive under all questioning. Sometimes a frank railroad employee will say that he is not allowed to tell what has happened. This is no doubt to a thoughtful man only a personal trifling annoyance, which he forgets as soon as the train starts. But it always leaves on the mind the thought of the railroad company as a secretive, remote, impersonal, and even deceptive thing. A number of such experiences has an effect on the public mind, and goes a good way toward making the railroad an object of popular distrust. It has had much to do with the feeling that a railroad company cares too little for the passenger, and has strengthened the popular conviction that it is conducted in ways that provoke and warrant suspicion.

A corporation can be courteous as an individual, and the courtesy of railroad officials

in many sorts of service to the public is admirable; and for this reason it has been a mistake to forbid them to make explanations of accidents and delays; and the new policy of publicity has a very far-reaching meaning. It is psychologically a very important mending of corporation manners.

"TIME FOR THE GRACIOUS OCCUPATIONS"

A REBOUND is coming from the crammed jumble of "child labor in the schools," which we have called education; and it is coming, of course, not through the discovery of any new thing nor by any "fad," but by the application of common sense and common industry and common honesty to the business of teaching.

There has, for instance, come to the desk on which this word of appreciation is written a little pamphlet about a school for boys that makes the usual "school-catalogue" look like tinsel or torture. To begin with, the whole thing is written in simple, good English. There is n't a sentence of pedagogical lingo in it; and the ordinary father of any extraordinary lad can understand it. The man who wrote it wrote it to tell what he does for boys — what his aims and methods are — without reference to other schools or school-catalogues or to what others do or to what he thinks parents think that he ought to do. He tells where the school is — on a tract of 200 acres, the highest portion of which is "the site of the simple school buildings and tents." There are no "halls" nor "dormitories," — no elaborate equipment. The climate "permits a genuine outdoor life." The boys wear "the simplest camp costume, and sleep in tents or directly in the open."

It is a life full of freedom, of exercise, of fresh air, but also full of suitable duties. The work consists "of the arts and accomplishments of life — bodily control and mastery," and (in the lower grades) "includes very little book work." The influences and instruction cover, among other things,

Reverence.
Manners.
Care of the Body.
Language: English and French.
Arts: Music, Drawing, Manual Work.
Nature Work: Gardening and Forestry.
Mastery of the Body in the Air: Walking, Running, Climbing, Jumping.
Mastery of the Body on and in the Water: Swimming, Diving, Boating.
Horsemanship: Riding and Driving.

The higher classes have but eight studies for four years — studies that are "at the foundation of all systematic culture; by so reducing their number, it is possible to gain concentration." They are English, French, German, Latin, History, Algebra, Plane Geometry, and Elementary Physics — all by the way that are required to enter any college, if a boy know them well.

The boys are divided into groups of from seven to ten, and each group is in the charge of a special master who takes the place of an elder brother, looking after their manners and morals and general welfare. Each group sits together at a table in the dining-room, and sleeps together in a big bungalow or tent or a cluster of tents. Good English, considerate manners, and clean conduct are required at all times. The boys work in the mornings at their occupations and studies, and for a part of the afternoon. The evenings are largely devoted to social life — music, games, story-telling, and reading aloud. The weekly outing allows an all-day excursion.

"Vulgarity or frivolousness will lead to prompt dismissal. To remain at the school, a boy must be mannerly and industrious, and from month to month must show a reasonable increase in skill and worth." It is an outdoor school and the studies have been reduced to a minimum to allow the greatest possible thoroughness and also "to leave time for the gracious occupations."

Of course the proof of a school is in its conduct and not in its plan only or mainly. But this plan brings to the training of a boy several large principles that our complicated education has often lost, such as these — the value of outdoor living, of riding, of walking, of story-telling, of social activity, of both the normally (not the abnormally) hardy and the "gracious" occupations — and of companionship with the teachers.

THE NEXT EXPOSITION, BAD TIMES OR GOOD

THE political campaign is not permitted to interfere with the industrial activity and the advertising enterprise of the Northwest. The secretary of the Alaska-Yukon-Pacific Exposition, to be opened at Seattle next July, writes that "all the buildings to be built by the Exposition corporation are so far advanced that they will be completed by February 1st — five months before the Exposition begins. The sod for the grounds has been growing for more than a year, and several

hundred thousand shrubs and trees are getting ready in a nursery for transplanting. "The grounds for beauty have never been equalled in the history of expositions, for nowhere else is there so superb a setting of water, woodland, and mountains."

The people of Seattle have subscribed for $800,000 of Exposition stock, most of which has already been paid for in full. The state has appropriated $1,000,000; California $100,000; Oregon $100,000; Pennsylvania $7,500; Missouri $10,000; Nebraska $15,000; and New York $75,000, and other states will act next winter. The Federal Government has appropriated $600,000 to pay for exhibits by Alaska, Hawaii, and the Philippine Islands.

The Exposition site includes 225 acres of the campus of the University of the State of Washington, and the Exposition will make permanent improvements for the University. The grounds, the water system, the sewer system, the park ornamentations, and most of the buildings are designed and built for permanent University occupation. The grounds have been laid out in conformity with the present University plans and the work will advance those plans perhaps twenty years.

ANNOUNCEMENTS

IN THE WORLD'S WORK for October the first installment of Mr. John D. Rockefeller's Reminiscences will appear.

In early numbers there will be published articles on the Bell Telephone Company, explaining the workings, the organization, and the methods of that great corporation — parallel to Mr. Keys's articles on the Standard Oil Company, another of which is yet to come.

There are other as interesting contributions in preparation. Mr. Edgar Allen Forbes, of the staff of THE WORLD'S WORK, has gone on a trip through North, West, and Central Africa, to take a year, and he will report and explain the call of this last of the unconquered continents to the white man.

Mr. B. L. Putnam Weale, a student of race-problems and race-conflicts in every part of the world, is preparing articles on "The World-Problem of the Future: the Question of Color." He will point out the relations and the dangers of the white, the yellow, and the black races to one another on every continent where they meet, and show how difficulties of this kind have been avoided or settled in the past. His is a report on race-conflicts the world over.

In the October number, Mr. Todd will continue his articles on airships with an exact explanation of the working of aëroplanes, and of fascinating new problems of air navigation, reporting the experiences of the successful aviators, the Wrights, Farman, Curtiss, and others. Mr. Forbes will have in that number "Uncle Sam and his Farmers," an article whose illustrations hint of plenty and prosperity.

An explanation of the condition and attitude of labor will begin with an article, by Mr. F. J. Dyer, on Mr. Gompers and his Federation and Labor in Politics — what part has it played?

THE CONSTANT CROP OF PROMOTERS' VICTIMS

THE WORLD'S WORK constantly receives letters telling how some poor man or woman has been induced to buy doubtful stocks, and faces the loss of the entire investment. Many of these letters come from country doctors and clergymen, and tell of cases that have come under their personal observation.

Very often the stories are pitiful enough. They all end with the question: "What can be done about it?" In ninety-nine cases out of a hundred nothing can be done. In the hundredth case there has been fraud on the part of some responsible agent, and a suit at law may recover the loss. But this chance is slight, for practically this form of piracy is safe, and nothing can be done to stop it.

The two "favored classes" of people in the lists of possible investors are the clergy and maiden ladies. There is hardly a "fake" industrial concern promoted in this country that does not send out to a list of the clergy a set letter, bought by the thousands from concerns that by long practice are experts in

preparing such literature, setting forth the claims of that particular company to the consideration of investors "of the most conservative and necessarily careful class, which you represent."

I had never been able to figure out just what profit there could be in this appeal by circular to the clergy, a class that usually has education, some knowledge of human nature, and very little money. But, since the Readers' Service of this magazine was established, I have come to understand, in some part, the reason why they are selected. Not only are the clergy themselves extremely likely to buy in small quantities, but the pitiful fact appears that, through the honest but misguided enthusiasm of preachers, the promoters reach hundreds of investors whom they could not otherwise reach. In small country towns and rural communities the clergyman is frequently a temporal as well as a spiritual guide, particularly to widows, orphans, and the helpless of both sexes.

And it is to such as these that the promoter looks for profits. If a man comes into the office of a lawyer, a banker, a merchant, or even an editor, and tries to sell stock that is "almost certain" to pay 100 per cent. per annum, he may find a listener but hardly a buyer. The promoter of a new invention, or of a mine, or of some wonderful process for making something out of nothing, knows perfectly well that he must reach the "little people," the men or the women with little in the world to lose, but with the hunger for money in their hearts. He must spread his net abroad, not set it in the sight of the wary and the wise. The way of the spreading may be of interest to some thousands of persons who appear to have been caught at times; and to many other thousands who have been coaxed, by skilful letters from men they never heard of, to buy this or that stock.

Any promoter of any company, good, bad, or indifferent, may go to any one of dozens of concerns in New York and buy a list of names and addresses of people who might happen to be interested in his proposition. These lists pass constantly from hand to hand. If you have ever bought stock from such sellers, you are a marked man. So long as you live in the same place, you will receive from time to time wonderful circulars from wonderful men with wonderful inventions, wonderful mines, wonderful processes that they wish to unfold to you.

Here are some paragraphs from a booklet issued by a promotion concern in New York, and intended, of course, for the perusal of the men who have something for sale, not for the perusal of the uninitiated.

"The man that buys stock in a new project, or in an unlisted enterprise, is a speculator rather than an investor — he has the gambling spirit in his blood, which accounts for the fact, for it is a fact, that lists of men who have previously bought into such propositions will buy into others. We have seen men who have incurred repeated losses by such purchases still continue to buy and buy. They are, by nature, susceptible to this class of appeal. This curious psychological fact makes lists of such men valuable, and lists comprised of other men valueless.

"We buy and sell investors' lists. As we are constantly purchasing fresh lists, and charge a fair price for those we sell, the names do not get "pounded" too much, although, as a matter of fact, we ourselves think it a decided advantage to approach a man who has received financial literature constantly. It educates him.

"To such an extent do we believe this that we have advised brokers to take certain lists and institute a thorough investment campaign with the people whose names appear thereon, keeping after them year after year.

"A man is a long time sometimes thinking of an investment or speculation, and every letter or booklet received on the subject is a 'jog' to his memory, and an incentive to him to act. We have seen a heavily 'worked' list produce very much better results than one that was almost fresh.

"The point is that the place to sell stocks is where, apparently, the strife for the buyer's patronage is hot. In London there is an increasing tendency of the various trades to group in one centre, jewellers in one street, tailors in another, etc. Fish gather where there are a hundred fishermen.

"This great truth is overlooked by brokers who want a list that has not been used. The possibilities of an investors' or speculators' list are never exhausted while the men on it are alive.

"However, we try, in deference to a prejudice on this subject, to keep our lists reasonably fresh, and abandon the use and sale of a list after twelve months have passed, being able to do this owing to the constant accumulation of fresh names and addresses."

This should be very interesting reading to the man who receives two or three letters a month from promoters and brokers who are handling various securities. That phrase, "Fish gather where there are a hundred fishermen," is eloquent. The average man certainly does not care to be "worked," "jogged," or "pounded" into separating himself from his

money, but it appears that processes such as these are the stock in trade of the successful promoter.

These are not secrets, save to the very innocent. Any man who has lived in touch with the business world for a very few years knows that lists of names are prepared daily, for all sorts of purposes. If a man needs a list of 10,000 men who have lost an arm, he can get it. In the cities, nearly everyone is "listed" for something or other. The point of present interest is the fact that regular lists of promising investors are daily sold by brokers in New York to promoters and to common stock-swindlers without the least regard to the interests of the people whose names are so retailed.

This is the fertile soil in which the ignoble plant of promotion has found its greatest growth. It is one thing to go to a business man with a business proposition. It is quite another thing to go to an aged maiden lady with no business training, and to sell her shares in some industrial gamble. This magazine unqualifiedly and without exception warns and advises its readers against the ever-increasing flood of pseudo-investment literature that is becoming a curse in the country.

Much has recently been heard concerning the evils of stock-market speculation. I believe that for every dollar lost by innocent people through speculation on the stock markets, a thousand dollars is stolen from the little hoards of the innocent and the poor by the promotion of companies either visionary or fraudulent. Some of these companies turn out well, and pay steady dividends to their stockholders. The vast majority of them, however, have a different history. Perhaps it is safe to say that 90 per cent. of the new industrial companies and 99 per cent. of the new mining prospects that are made to appeal to this class do not live to reach the dividend stage at all.

The normal fate of such companies seems to be bankruptcy. Things run along smoothly while the stock sales are going on. The company runs its plants. After a little time, the stockholders receive a notice from the secretary of the company to the effect that the company has been obliged to borrow money for working capital from time to time, that the debt is about to mature, and that something must be done immediately. The letter usually encloses a notice of a special meeting to be held at some date. You are invited to attend, or to sign the enclosed "proxy," which entitles somebody else to vote in your place.

Normally a fight results. Some stockholders, unwilling longer to trust themselves to the tender mercies of the management, demand the list of stockholders, obtain it, and try to get the support of the stockholders against the management. The affair becomes a scramble to save the pieces. The small stockholder, unwilling to risk any more money, is forced to take his loss. What remains of the company passes into the hands of its creditors, or is sold to some other concern.

All these things are done by legal process. Unless there has been fraud, forgery, perjury, or some other crime in the chain of events, the stockholder has no redress. Even if some crime has been committed, almost any adviser will advise the holder of only a few hundred dollars' worth of the stock not to sue. It will usually cost five dollars to collect one.

The remedy is plain. No one should buy stocks of this class except as an out-and-out gamble. If a man feels able to lose a few hundreds of dollars, it may be all right to stake it in some of the mines or industrials so wonderfully advertised, for a very small percentage of them will doubtless prove fortune makers. The average investor has no right to have anything whatever to do with them. C. M. K.

THE NEED FOR BETTER BUILDING

NO OTHER nation suffers from fire as does the United States. The fire loss in this country has reached $215,000,000 in a normal year, a sum equal almost to our Customs revenues, greater than the dividends paid by all the railroads, greater than the postal receipts, greater than the production of gold or of silver. In "abnormal" years we have far exceeded that amount, as in the years of the Baltimore fire and of the

San Francisco disaster, that of itself represented a fire damage of nearly $315,000,000. Did all the world indulge in such orgies of fire as we do, the annual loss would be somewhere in the neighborhood of $3,600,000,000, while, as a matter of fact, the total fire losses are estimated at but $600,000,000. Indeed, we destroy more property by fire than do any four nations in Europe. Our fire tax equals $2.30 per capita per year, while in Europe the same tax is less than 33 cents. The city of Boston has had fires aggregating over $5,000,000 in the past few months; Rome, a city of almost equal size, feels terribly aggrieved when her fires total more than $50,000 a year. Here we complacently figure up totals and increase our insurance, instead of building better, and think that a fire is hardly worthy of attention that has not reached the million mark. There was recently a fire at Frederickstad, Norway, that destroyed twenty-three buildings, some $560,000, and the European papers have not yet gotten over their editorial lamentations thereat. In all of 1907 there were but thirty-five fires in Great Britain that averaged over $50,000 damage and not one that exceeded $400,000 destruction. The total of the thirty-five fires aggregated $3,785,000. With us, a city really feels that it has not been properly treated if it does not have at least one $1,000,000 fire a year.

While talking in figures, it may be well to mention that actual combustion is not the only item of our fire cost. We spend in the maintenance of fire departments, installation of high water-pressure systems, and those curative agencies that have become necessary by reason of our poor construction, nearly $300,000,000 a year. More than that, the very latest insurance reports indicate that all the companies, stock and mutual, wrote approximately sufficient insurance in 1907 to make a total of nearly $300,000,000 in premiums, and this can be termed an additional cost of fire. True, a portion of that last sum (the insurance companies put it at sixty cents on the dollar) was refunded in the form of paid losses. Allowing for that, we find that the total cost of fire, incidentals and all, in a normal year means just about $600,000,000. This figure is particularly impressive when we note that the greatest building year that we have ever had in our history shows a record of about $615,000,000 expended in new buildings and repairs. In January, 1908, the total of new building and repairs equalled $16,000,000: during the same month, fire destroyed $24,000,000 worth of property. We think that we are growing tremendously and are doing wonders in the way of building, but these figures would indicate that we are adding new buildings at just about the same ratio at which we are destroying them. Admitting that very little can be done to the old buildings, it is somewhat illuminating to realize that one-quarter of the sum expended for insurance in the year 1907 would have made fireproof every building erected in that period.

It is true that no other nation builds as convenient and generally attractive buildings as we do, and that nowhere else has the art of fireproof construction been so highly developed. The trouble is that we have illustrated that art in distressingly few buildings. In round numbers, there are perhaps 12,000,000 buildings in the country — representing a value of something like $14,600,000,000 — but of that number only 8,000 have been constructed so that by any stretch of the imagination can they be called fireproof. Even of that number there are really but six or seven structures in the entire land that *are* positively fireproof in the exact sense of the term. Yet to make a new building fireproof is comparatively easy, and costs, initially, not more than 10 per cent. more than does an ordinary construction, while after a life of four or five years it has become, actually as well as sentimentally, an economy.

New York has 3,000 firemen, 11,000 horses, and 160 steam-fire engines, and the department responds to about twenty-six alarms a day. In spite of its wonderful efficiency, the city suffers something like $7,000,000 loss a year. London has about 3,843 fires a year and Berlin, 3,000, with a loss of perhaps $170,000. Rome would average 270 fires a year; Milan, 786; Florence, 160, and so on down the list with no one European city equalling, pro rata of population, one-fifth of the fire loss or the cost of maintenance of fire departments that we have in the cities of this country.

It may be said that fireproof construction is the one and only means of fire-prevention. The term "fireproof" is used altogether too glibly. A man puts a tin roof upon his wooden building or a concrete floor in his cellar and immediately, by some occult process, that becomes a "fireproof" building; and he and his neighbors are grievously surprised if the house eventually burns to the ground. The

science is exact and all its application simple, but no halfway measures are of much value.

As a chain is only so strong as its weakest link, so is a building. Everything must be done right, for one little wrong is quite sufficient to vitiate all that has been done correctly. It is distressing indeed to see hundreds of thousands of dollars put into some great building, substantially built, and with all sorts of costly provisions made against fire, but with some foolish little detail missing, exposed windows on an alley unprotected, or something as silly, that jeopardizes that building and all that is in it. Architects are largely to blame for this. They seemingly have not seen and appreciated the necessity there is to do everything well. They are too busy to give adequate time and consideration to the permanency and lasting qualities of the structure they are evolving. But even the layman ought to know and could easily learn what really constitutes fireproof construction. The structure in all its parts and its decoration and finish should be of non-combustible and preferably non-damageable materials; its elevators and stairs should be enclosed; its windows and doors should be protected from external attack, and there should be ample equipment and due diligence exercised to prevent the spread of an incipient fire in the contents of that building.

If the layman cares to go more into detail, he must have seen, and therefore knows, that many incombustible building materials are, nevertheless, greatly damaged by heat. Steel will distort into all manner of shapes; granite and marble and sandstone and limestone will go to pieces. Therefore will he, if sensible, eschew those things, or so carefully protect steel, for instance, with brick or other non-heat-conducting material, that the steel can never be exposed to fire. He will use brick and terra-cotta externally, not only because they are cheaper than stone but because, in case of adjacent fires, his bill for damages will be the minimum; he will see that his windows are of wire glass in incombustible sash and that fireproof doors, self-closing doors at that, are in his stair and elevator enclosures; he will use light and wonderfully fire-resisting tile-floor arches and partitions; he will see to it that the decorations and finish of his building are of marble and metal and plaster or, cheaper still and more effective, color upon plain surfaces instead of elaborate wooden wainscoting and paneled ceilings, etc.

Americans, as a rule, build only as well as they are compelled to. It therefore lies with the community, and it is the duty of the community, to safeguard the life and property of its citizens, even though as individuals they may not be willing voluntarily to make that move. The strictest kind of building regulations are absolutely necessary. The building speculator will raise a protest, but so protests the saloon-keeper every time high license or prohibition is mentioned. However, the community might also offer an inducement to its people to do better. Why should not the taxes be so adjusted that the owner of a first-class building, that requires the minimum of municipal fire-protection, be compelled to pay but the minimum rate, while the owner of the fire-trap, for whose benefit all this fire department and other protection expense is incurred, should be made to pay for that protection by means of a maximum rate of tax? Some states are doing it already and all our architects and builders should be made to pass an examination and receive a license before practising or plying their calling in any city. Then, if anyone should infract the building regulations, revoke his license. Further, let all building superintendents be skilled and licensed officers of the city, paid by the owners of buildings but responsible to the city for the proper construction of the buildings under their charge. And, last but not least, let us make it the duty of the building department in every city conspicuously to label all buildings in the congested districts and all buildings everywhere of a semi-public nature. Suppose they be marked "fireproof," "ordinary," "dangerous." It will, in the first place, wake up the departments to considerable alertness; it will prevent impudent or ignorant owners from exploiting fire-traps as "absolutely fireproof" hotels, for instance; and besides, if a man about to build realizes that his theatre or office-building or whatever it may be will, if built a certain way, be labeled "dangerous," he will think it over and do better, even though the law may not compel him to do so in that particular district.

The prospect of the complete devastation of our forests is bad, but the contemplation of the danger one runs of being one of the 7,000 people burned every year, or of losing every penny in a fire, is worse, and it behooves all thinking men to join hands in this movement

for better construction of buildings. The individual will not act without being compelled to by the community; and again the community will not pass the requisite laws unless urged to by the individuals, at least those who think and have the welfare of the whole enough at heart to take the trouble to express themselves and to add force to the "urging" that is now being done in every city in the country. F. W. F.

LOWELL'S "GOVERNMENT OF ENGLAND"

THE Government of England," by A. Lawrence Lowell, Professor of the Science of Government in Harvard University, has conveniently been compared with Mr. Bryce's "American Commonwealth;" for he, as a sympathetic American student, has done for England a task similar to the task that Mr. Bryce, as a sympathetic Englishman, did for the United States. He gives to the American reader the best presentation yet made in popular language of the workings of the British government, and much pertinent comment not only on the development of the system itself but to some degree also on its possibilities. For many years his explanation of the intricacies of English politics will in all probability be unsurpassed.

In these two volumes of eleven hundred pages, he explains the English government as it works to-day, in both national and local ways. To this purpose he holds, as the needle points to the north. He sets forth, for the benefit of such as are either uninformed or insufficiently informed, the leading principles of British rule, and takes pains to write always plainly. From the opening chapter, an introductory note on the English constitution, to the final analysis of the English law courts, the reader is conducted, so to speak, through a great and imposing edifice by an experienced guide. The course is along the main corridors; yet there is no undue haste about the progress, and by the very holding to the essential characteristics of the architectural scheme a sound basis is laid for any future investigation.

The English political system has grown up "by a continual series of adaptations to existing needs," and so has become, on the whole, more consistent with itself, more harmonious in the operation of its parts, than any other government. It is, indeed, a living organism that is here treated — an organism with quaint survivals, but, by and large, intensely vital and singularly responsive to varying needs.

The plan of the work, after the initial survey of the constitution, naturally calls first for a review of the diminishing part played by the Crown. Joined to this is a synopsis of the relations between the Crown and the Cabinet, this section being followed by chapters on the Cabinet and the Ministers, the Executive Departments, the Treasury, and miscellaneous offices, with a consideration of the permanent civil service and the Ministers and the civil service. At this point the reader is prepared for the chapters on the House of Commons, the Commons and the Cabinet, the House of Lords and various related topics.

All these chapters constitute that division of the book bearing on the central government of England. Next comes an extremely satisfactory study of the English party system, the fourteen chapters covering, among other subjects, "Party and the Parliamentary System," "Party Organization in Parliament," "The Rise and Fall of the Caucus — The Liberals and the Conservatives," "The Strength of Party Ties," "Local Political Organizations," and "The Existing Parties." Other divisions are devoted to local government, education, the Church, the Empire, and the law courts, the second volume being brought to a conclusion with five chapters under the general head, "Reflections."

Of these miscellaneous divisions, while each has a special meaning, that of most significance to Americans is "The Empire," leading up to the desire for closer union expressed in the idea of imperial federation. Here, as elsewhere, Mr. Lowell shows in a broad way the tasks which increasingly tax the powers of British statesmanship.

In the final survey, attention is directed especially to society in England, with reference to the confluence of aristocracy and democracy, and to the notable growth of paternalism. Paternal legislation is referred to as "perhaps even grandmotherly"; and he enters into a

brief but illuminating criticism of the modern tendency to magnify efficiency as compared with abstract principles. Something of what he says may be quoted as applicable to the situation on this side of the water, as well as on the other. The tendency to magnify efficiency, he remarks —

"is well, but like all good things it may be overdone. Man has wrought such marvels by his growing control over the forces of nature that he tends to look on all evils as curable and curable quickly. The modern world is in a hurry. Not only does it measure the wisdom of a course of action by the results, but it wants to see those results. It demands of men and of policies rapid success. Conversely, it is not content, when something is wrong, to see whether matters will not right themselves in the natural course of events, or even to wait until the subject has been thoroughly studied. It seeks an immediate remedy, and often grasps at the first plausible suggestion. Nor does it look far ahead for the signs of future trouble, because it is busy; its hands are filled by the work of the day. In short, the world is prone to deal only with the things that are pressing and obvious, and therefore to treat symptoms rather than causes."

This extract gives a hint of the suggestiveness of a work which broadens one's knowledge and healthfully stimulates thought. But, like Mr. Bryce's book, it is informative rather than inspiring, the work of a scholar but not of a man of unusual imagination, useful without being inspiring, yet a satisfactory book on one of the greatest subjects in the world.

WHERE THE HIGH SCHOOL FAILS

HOW COLLEGE INFLUENCES AND THE STRIVING TO PRODUCE THE SUPERHUMAN HAVE HURT SECONDARY EDUCATION

BY

WILLIAM McANDREW

THE high schools are under fire just now, subjected to a criticism more continuous and violent than in the seventies, when the courts were called upon to decide whether high school instruction was practical and necessary for the public at large. Supreme Court Justice Cooley then declared in a famous ruling that education (not merely rudimentary instruction, but in an enlarged sense) was an important practical advantage to be supplied to rich and poor alike, thus fixing the democratic function of such schools. In commenting upon this ruling, Chancellor Payne of the University of Tennessee said that while "the college is rather a mediæval institution, reflecting the opinions, the culture, and the needs of an obsolete state of society, our high schools must respond quite fully to the exigencies of modern life and thought." It is now nearly as difficult to find persons who will deny this principle of secondary education as it is to find high schools that really carry it out. The high school of to-day is characterized as antiquated, gone to seed, narrow, illiberal, exclusive, and aristocratic. This is the identical criticism of Samuel Adams's time. What are the reasons for the persistence of this charge?

For one thing, there is the college influence. That is aristocratic. "The function of the college is to produce a small and highly trained patriciate — an aristocracy, if you will — men of high breeding and supreme attainments who will rise above the level of the commonplace," declares your college professor. The college man, he says, should be one of a special class. To be a college man is to be a distinct type.

As the American high school is historically a college adjunct and not a superstructure built on the common schools, its spirit is naturally this aristocratic college spirit. The teachers are rarely secured by promotion from the elementary schools; they are college students fresh from the university atmosphere. The course of study is not a continuation of the common-school course; it comes down like a stalactite from above. The questions of high-school management have not been, "What are the most useful ways in which these young people can spend their school time?" but, "What do the college examinations require?"

These policies prevent the adaptation of high schools to the many. They were fair enough in the beginning. When the high schools were established as fitting schools, their business was to fit. You could choose them and pay, or leave them and not pay. Your tuition was an initiation fee into a "small and highly trained patriciate — an aristocracy, if you will." It was none of the public's business what the course of study was. But when the communities took over these schools and paid their expenses from the public funds and by the decisions of the courts declared the rights of all the children to attend, the old defenses of a special education for the few had no foundation in right or reason. That educators continue to conduct public high schools in accordance with those traditions is the most frequent charge by the lay press just now. The apologies uttered by the high-school masters for clinging to obsolete practises constitute a well-known cycle of educational cant.

WHO CAN JUDGE FITNESS?

One of the hardest worked phrases of this scholastic parlance is "the survival of the fittest." So accustomed are we high-school folks to this idea that it never occurs to us to question whether it may not be wrong to apply it to high-school students at all. It may be the law of plant life, of animals in the wild state, of business, and of war; but to religion, government, philanthropy, and education it is inapplicable. In our own day we have seen the elementary schools repudiate it. The high school and college are the only educational grades that assume as a high duty the exclusion of the unfit. Fancy Christ, or Paul, or Froebel, or Howard, or Wesley, or Wilberforce, or Lincoln confronted with this tenet so common in high-school circles. When I graduated from the high school, one of a class of five, the Commencement orator told us that we were the wheat from which the chaff had been winnowed away. Some of this chaff run that town to-day, and do it well. Last week I heard, at another graduating exercise, a speaker compliment a dozen boys because they were the remnants of two hundred who began with them. At a recent meeting of the school board of Corning, N. Y., it was decided that if parents of children who are found defective in sight and hearing did not immediately take steps to remedy the trouble, the students would be expelled from school. We cannot easily get rid of the idea that education is a privilege for the few. Exclusion from school either by formal act or by indirection is still regarded as an ordinary exercise of the high-school master's prerogative.

The devices to exclude the unfit are many and familiar. It is not uncommon to hear the authorities assert that entrance to high school should be determined by an examination set to high-school standards. In may communities a boy may be able enough to be counted a graduate of a grammar school but not to be admitted to a high school. Even in our largest high schools, with an abundance of teachers and the possibility of variety of service, we have not reached a point where we are willing to adjust that service to the ability of ordinary children of thirteen years of age.

Our pace is set for superior children. A favorite cant expression of ours is "upholding the standard." What standard? The grade that those who have completed the elementary school can maintain? Not at all. The president of Harvard says that "we propose to uphold the standard and to uplift the secondary school by our admission examinations"; on the next day the principal of Phillips Academy, Andover, says that "the boy of average ability finds himself taxed beyond his power." For forty years, at least, we have been following this absurd practice of the unattainable standard. I was never able to reach it in high school or college. I have asked hundreds of college men about their experience and never met one who said that he had been given work that he could do well. We set the mark so high that we don't expect it to be hit, but we will accept 60 per cent. of what we ask. This practice of discounting complete work is universal in colleges and in high schools. If we were not so accustomed to it, we would regard it as the device of a diseased mind. It is a system of educating men and women not to desire the best. The best is not required. We teach them to be satisfied with indifferent success.

Another favorite theory of our aristocracy is that we high school people train the leaders and should therefore be permitted to take money from all the taxpayers for the education of a few. The men whose sons drop out of high schools do not rally enthusiastically to this war-cry. Even if it were true, the leadership theory does n't fit into democracy very well. But is it true that we make leaders? Why is it that Beecher was rated by the

leadership experts thirty-fourth in his class, while number one became an inconsequential barber? Why is it that Linnæus's teacher said that he was unfit; Darwin's, that he was dull; Seward's, that he was stupid; Swift's, that he had no promise; Wordsworth's, that he was a disappointment; Sheridan's, that he was a defective; Humboldt's, that he lacked ordinary intelligence; Heine's, that he was a dunce; Hegel's, that he was only middling; Byron's, that he belonged at the tail; Huxley's, that he was notably deficient; Schiller's that he showed no proficiency; Lowell's, that he was negligent; Goldsmith's, that he could not learn; Wagner's, that he was a mental sloven; Goethe's, that he was unsatisfactory; Emerson's, that he was hopeless; Pasteur's, that he was only average; Thackeray's, that he was undistinguished; Gladstone's, that he had no unusual ability; Watt's, that he lacked the qualities of success; Ibsen's, that he belonged in the lowest grade; Curie's, that he was too stupid for school? Mr. E. J. Swift, in his book on "Mind in the Making," gives thirty pages of eminent leaders who were dubbed failures by their teachers.

HONOR GRADUATES DO NOT ALWAYS LEAD

I do not understand that it has been proven that those who excel in our present high-school courses become leaders in any larger proportion than those who do not. In the two towns in which I have lived sufficiently long to observe who the leaders are among the men and women, I do not find that the high-raters or even the ordinary high-school graduates outnumber the non-graduates in leadership. This is remarkable because it has been the fashion for forty years for the children of "the best people" to attend the public high school in those towns. The leadership theory lacks support in that the managers of high schools omit to teach leadership. In order to lead, must not one be inspired with a consideration for those who are to be led? The yearly abandonment of so many high school students who withdraw from school makes a sorry lesson in leadership for those who remain. All leadership that I ever studied has a great deal of coaxing and winsomeness in it, whether manly or womanly. One could more easily learn driving than leading in high schools. If the high schools are teaching leadership, is it not in those parts of the boy's doings — his games and his clubs — which are not our chief business at all?

Another piece of cant we high-school people utter is prattle about a deep, a broad, and an accurate scholarship — as if we had it and our students were getting it from the college-made curriculum on which they are fed. This is one of our most sacred ideas. Our faith in this ideal is as dear as a good man's devotion to his mother. But if you put by your emotion and make a search for this scholarship, where is it? There was some in the teaching given James Freeman Clarke and the children with him, but the standard high-school curriculum to-day forbids the exercise of diversity, novelty, or enthusiasm. Without enthusiasm how are you going to have depth or breadth of scholarship? Only a man who is a product of our education would call by the name of scholarship the paradigms, grammatical rules, and lifeless drill that constitute so much of high-school courses now. To call it scholarship is cant of the most fragrant stripe.

These ideas — that the high school should continue to suckle at the college teat; that its purposes should reflect the aims of the university; that it should exclude the unfit; that maintaining high standards is better than educating the dull and the ordinary; that its business is to train the leaders and not the rank and file; that it is especially concerned with scholarship — seem to me the persistence of aristocratic ideas that were legally nullified when the courts established the right of the communities to tax all the people to maintain secondary education. These schools should be like the rivers and the roads, not maintained for private yachts and automobiles exclusively, but even for oarsmen and pedestrians. All the children who have finished the elementary schools should determine the studies and the management of the high schools. They should not be ignored in favor of a traditional, mediæval system. A living person, not a curriculum, should be the determining factor. Judge Draper believes that American high-school procedure is "wasting the lives of the children" and that "there is a sad lack of definite aim and purpose about it all, and that our educational plans do not rationally meet our conditions." If those were the words of an enemy of higher education they would be serious; but as the deliberate utterance of an ex-superintendent, a recent University president, and the present head of the educational system of New York state, including 665 public high schools, they are singularly

momentous and solemn. And they are not unique. They merely express more directly and forcibly what is current public opinion.

It would seem that we are again at a period when public opinion feels about us as Governor Adams felt regarding the academies a hundred years ago: that "our learning, instruction, and social feelings belong to the few." If this is correct, if it is a true diagnosis to attribute the snobbery of learning to these much berated institutions of ours, then the prescription is not very hard to write.

THE WAY OUT

The high school should abandon its idea of being an "institution" with traditions, cults, doctrines, and holier-than-thou proclamations; it should get down to a humble endeavor to serve all children. It should cease maintaining that its mental food, cut and dried by experts of unproved fitness for life here and now, is the only proper nourishment for growing boys and girls. It should study the real world about us and try to reproduce the best of it under the best conditions in the class room. There are thousands of teachers able and anxious to do this if the debilitating bonds of organization, uniformity, and system, which have been perfected by education in the past generation, be relaxed.

We see, now, an almost universal discontent with high-school education, simmering in the newspapers, in civic clubs, and among the laymen on boards of education. You never heard such frequent repetition of the old dictum that the schools belong to the people. Are the high-school men going to uphold "the aristocracy of learning," to declaim about the "maintenance of standards," "the survival of the fittest," "the training of leaders," and "the best interests of the school" (which means the master)? If so, these agitators will force from without their new reforms, with all the old familiar spreading of the notion that school teachers are opposed to progress, unable to fit themselves to circumstances, and in general worthy of contempt. If, on the other hand, the high-school men are wise, they will admit that times have changed since education was standardized; that all the children of all the people are worth some kind of training up to sixteen or eighteen years of age; and that no one in the world is more desirous than the high-school masters of serving those children with any kind of training that public sentiment desires to experiment with.

OUR GOVERNMENT'S WIDESPREAD SOCIALISTIC ACTIVITIES

BOTH THE NATION AND THE CITIES ARE MAKING THE MOST GIGANTIC STRIDES IN CONDUCTING PUBLIC UTILITIES

BY

JOHN MARTIN

[*Mr. Martin uses the word socialism in its broad sense to denote a wide range of activities beyond those that pertain to the individual*—THE EDITORS.]

DEMOCRACY in this country has acted socialistically and communistically to a degree which few Americans realize. From early days the individual liberty of the poor man to go without roads, to keep his children from school, to poison the streams with typhoid germs, to carry a gun and administer his own justice, or to sell liquor has been restricted for the common good by methods which are socialistic. Gradually the practical man, heedless of theories, faced by new problems, has adopted in America more and more of the socialistic method until to-day it is a most important factor in local, state, and national life.

Besides our international relations, the army, the navy, and courts of justice, the National Government now conducts the post-office, coinage, regulation of the currency and note-issue, ship-building, ship-repairing,

and its own banking. It lights the coast and deepens harbors and rivers with so much national benefit that a strong movement is on foot for the expenditure of hundreds of millions in making a waterway from the Gulf of Mexico to the Great Lakes, and a still-water route on the Atlantic coast. Recently private contractors broke down in dredging the new channel past Sandy Hook in New York Harbor. But the Government, reckless of the musty proofs that it could not possibly manage any business enterprise, went ahead with the work itself; and, before the estimated time had elasped, ocean liners traversed the channel. The National Government, furthermore, carries on and publishes its own researches in geology, meteorology, statistics, zoölogy, and geography. Every one of these functions, including those of the army, navy, and courts of justice, was in some countries at one time left to private enterprise and was financed by individual investments.

In the states and cities, the making, sweeping, lighting, and repairing of streets, roads, and bridges, sewerage systems in all their complexity, museums, parks, art galleries, libraries, concert halls, markets, fire engines, ferries, public baths, harbors, piers, wharves, docks, hospitals, dispensaries, schools, and universities, have all been brought under collective management. New York state is enlarging the Erie Canal at the cost of $101,000,000, chiefly at the behest of business men of New York City and Buffalo, while Illinois is considering a similar scheme for connecting Lake Michigan with the Mississippi, and for recouping the cost out of the water-power developed.

In addition to direct supersession of private enterprise, some states now register, inspect, and control many industrial functions; in addition to births, marriages, deaths, and electors, they register lawyers, notaries, newspaper proprietors, brewers, bankers, captains, mates, doctors, cabmen, hawkers, pawnbrokers, distillers, nurses, game-dealers, insurance companies, friendly societies, endowed charities, corporations, lands, houses, deeds, dogs, pamphlets, newspapers, trademarks, patents, lodging houses, saloons, theatres, music halls, places of worship, schools, and dancing rooms. Nor is this registration a mere form. Many of the foregoing are also inspected and criticized, as are steam railroads, street railways, ships, mines, factories, canal boats, public conveyances, fisheries, slaughter-houses, dairies, milk-shops, bakeries, domestic workshops, gas metres, explosive works, and lodging houses. In some states, for many of the larger industrial operations, there are prescribed the age of the worker, the hours of work, the amount of air, light, heat, lavatory accommodation, holidays, and meal times; where, when, and how wages shall be paid; how machinery, mines and quarries shall be fenced and guarded. On every side the individual capitalist and the corporation are being registered, inspected, controlled, preparatory to being eventually superseded by the community.

SOCIALISM FOR THE FARMER

In few of our larger activities are socialistic methods more in evidence than in the industries related to agriculture. The farming class constitutes the largest body of voters in America, and industrially their work is the most important. For aiding them in their labors, a perfection of communism has been attained of which few Americans are aware. Whatever puzzling emergency confronts the farmer, he can summon expert aid to give him all that science and experience can furnish to enable him to meet it. The National Department of Agriculture, assisted by the State Department, stands ready to show him what crops to grow and how to grow them, what animals to breed and how to breed and tend them, what trees to plant and how to care for them, how to produce the best butter and cheese and the way to market them. This paternalistic department is responsible for the introduction into this country of sorghum, a crop now worth $40,000,000 a year; Durum wheat, worth $10,000,000 annually; alfalfa, one of our most important crops; the navel orange, worth many breakfast foods; Japanese rice and bamboo; the Corsican citron; the Indian mango; the Bohemian horse-radish; the German brew barleys; Spanish almonds; French prunes; Chinese mustard, and Egyptian cotton. In three years, four thousand novelties have been brought to this unsuspecting land by a socialistic department. During last year, laboratories were established at Baltimore and at New Orleans for the purpose of examining and reporting upon the condition of any consignment of seed or grain, and an agent

will be stationed at foreign ports to examine cargoes on their arrival from this country. Also outside of the United States exploration work is carried on. This has recently resulted in the introduction of a seedless hardy persimmon, a hardy wild apricot, a new hardy peach, soft-shelled walnuts, varieties of Chinese grapes, and edible fruited hawthorne, and edible kernelled apricots — to mention only a few aliens which are being naturalized.

The best known and perhaps the most valuable work which the Departments of Agriculture, federal and state, have done, is in overcoming the destructive pests and diseases which are constantly threatening our plants and trees. The ravages of the boll-weevil in the cotton of the South have been materially lessened by the recommended use of early-maturing, short-season varieties. Iowa in 1903 was alarmed by the yearly falling off in its corn crop to figures far below normal. Professor Holden, of the State Bureau, by means of exhaustive investigations, traced the evil to inferior seed; and careful selection of seed-corn soon restored the normal yield. The eradication of the little-peach disease in Michigan and New York and the peach-blight in California, the checking of bitter-rot in the apple, and the brown-rot diseases of peaches and other stone-fruits are but a few of the countless achievements effected along these lines.

Not many states but have felt the beneficent results of the work of the department's representatives. Dr. Knapp brought great prosperity to certain parts of Louisiana and Texas through a new kind of rice farming which he developed. Professor Bolley has virtually eradicated oat-smut in Wisconsin, a pest which was costing that state millions of dollars a year. Professor Babcock discovered a simple appliance for gauging accurately the richness of milk, which has been invaluable in putting the dairy upon a sound economic basis. With a true socialistic spirit, Professor Babcock refused to have this test patented, so it remained only another of the aids which a communistic department has given free to the American farmer.

SOCIALISTIC RECLAMATION WORK

In the great semi-arid regions of the West, where the farmer is faced by the necessity of diverting water from the streams in order to irrigate his fields, water rights are of equal importance with land claims. During the early days, individualistic competition for water rights was the rule, but this practice was so fruitful of quarrels and lawsuits, and so altogether unsatisfactory, that state after state adopted collectivist principles in determining water distribution.

Colorado was the pioneer state in providing for the distribution of water by public officials, the state engineer being the head of the system. The state is divided into districts, each watered by its own streams. State officials measure the stream, gauge the supply, and act as an earthly providence to the farmers. The commissioner of a district receives each morning by telephone a statement of the river under his control, and is then prepared to go over the stream, regulating the head-gates of the ditches as may be necessary and giving orders to the ditch managers.

Wyoming and Nebraska maintain a similar system for the control and apportionment of water rights. Since 1903, the state engineer of Idaho has had supervision over the acquirement of rights, and in the same year Utah put into use a complete scheme for the control of the waters of the state, their measurement, apportionment, and appropriation. North and South Dakota followed suit in 1905, declaring all water from sources not navigable to be the property of the state. About the same time the territorial engineer of Oklahoma was authorized to refuse applications for water rights upon sufficient grounds.

In these Western states, it is required that the plans of any company which proposes to construct large irrigation works must be sanctioned by the state engineer of the irrigation board, and all expenditures approved. At every stage, the cost is corrected in the interest of the farmers, who will be required, in taking up a perpetual water right, to repay the corporation whatever amount they have expended in nine annual installments, plus interest at 6 per cent. With such supervision and minimizing of profits, private capital has not been eager to undertake the task, and little by little the essential principles of Americanized socialism have been pressed into use, and the powers of government have been invoked to make the desert available to man. The Reclamation Act, passed in 1902, provided for the collective construction on an unprecedented scale of vast engineering works for the reclamation of desert lands. As a

result of this Act, the arid regions of the West have been transformed. The Roosevelt Dam now being built in Arizona will create a lake twenty-five miles long, and will bring into cultivation 200,000 acres of land. The Government has itself manufactured the cement and sawed the timber used in its construction. In Wyoming the highest dam in the world is in course of erection, and in Colorado a river is being diverted by means of a six-mile tunnel through a mountain of solid rock. The mammoth Laguna Dam, which controls the Colorado River; a huge earth dam in South Dakota, with a ditch 140 miles long, the size of a ship canal; a unique system of pumps on floating barges in North Dakota, which lift water directly from the Missouri River — these are but a few notable features of the work now in progress.

Up to the beginning of last year the completed works included enough canals to stretch from Washington to Omaha — some of them carrying whole rivers — tunnels aggregating eleven miles in length, ninety-four large structures (such as dams), nearly four hundred miles of wagon road, over seven hundred miles of telephones, many cement and sawmills, and the topographic survey of an area greater than Massachusetts and Rhode Island. The Reclamation Service is operating nine locomotives and 223 cars, upon twenty-three miles of railroad, and five electric light plants which it constructed. As a result of this work, ten thousand people have taken up their residence in the desert.

The construction now under way will serve to irrigate 1,598,000 acres, and the projects planned will add 3,270,000 acres more. Of the projects already approved, the approximate total cost is $97,000,000. Yet so fertile is the irrigated soil that two crops will almost pay the total cost of the irrigation system. An accurate account is kept of all expenses from the time that an irrigation project is undertaken. When the work is completed, each acre irrigated is assessed a pro rata of the total cost, and this the settler must pay in ten annual installments, without interest. This money is returned to the Reclamation Fund to be used over again.

Before long, 600,000 farms, the homes for 3,000,000 people, will have been reclaimed from the desert. As town populations are more than double the population of their supporting farm districts, it is safe to say that 10,000,000 people will presently be occupying these reclaimed lands. The construction by a government of such a vast water system, to be sold piecemeal to thousands of farmers, and the continued ownership of the main works, with guaranteed water rights to each lessee and strict enforcement of regulations upon the coöperative associations of water users, constitutes perhaps the widest application of practical socialism on American soil.

SOCIALISM IN THE SWAMPS

Not content with this unparalleled achievement in the arid West, the Government has entered upon a campaign for the reclamation of swamp and overflowed lands upon similar principles. An Act authorizing this new undertaking has been introduced in Congress, and a National Drainage Congress has been held. The Department of Agriculture has made an investigation of the whole subject and reported most favorably upon it.

The project is gigantic. There are in the eastern portion of the United States 77,000,000 acres that can be reclaimed and made fit for cultivation by ordinary engineering skill. Were it possible to collect them into one body, it would make an empire as large as England, Ireland, Scotland, and Wales. It would cover the New England states, New York, and the northern half of New Jersey, and would provide homes for a host of people equal to the combined population of Sweden, Norway, and Denmark.

Since most of the undrained swamp land is of trifling value, each state will doubtless be obliged to acquire, by the exercise of the right of eminent domain, such land as it desires Federal aid in draining. Only in this way can the net value, which the drainage projects will add to the land, accrue to the whole state, and the subsidising of private landowners by the Federal Government be avoided.

SOCIALISM IN THE FOREST

Quite as interesting as Uncle Sam's projects to secure new advantages for his people, are his paternalistic efforts to conserve those natural resources which are threatened through individualistic exploitation. He owns and operates a forest estate of fabulous value, "in the interest of the whole people," as an official report phrases it. Embracing about 150,000,000 acres, it is larger than the combined areas of Great Britain, Ireland, Greece,

Switzerland, Belgium, Servia, Denmark, Costa Rica, and Iceland, or equal to the area of the whole of New England, New York, and West Virginia. By the application of successful business methods to the working of this estate, the gross receipts derived from it have been increased from $25,431 in 1902 to more than $1,000,000 in 1906. By protecting the forests against fire, by permitting the cutting of ripe timber under strict regulation, and by planting operations on an extensive scale, the yield of the forest is ever increased and the threatening lumber famine postponed. The communistic activities of the Forest Service are not confined to the management of the Government's forest reserves. It coöperates with various states of the Union in the study of their forest resources and the elaboration of plans for developing and protecting these resources. At present forestry is being applied upon a million acres of private woodland under plans prepared during the past four years by the Forest Service. During one year this active bureau has examined, in twenty-five different states, timber tracts aggregating 2,000,228 acres. It coöperates with railroads in investigating the present tie supply, the possibilities of planting trees for ties, and methods for prolonging the life of ties. Private lumbermen have been shown by the results of the bureau's studies how to economize the rapidly diminishing supply of timber, and how to increase the turpentine flow in pines.

Nine states have forest reservations. New York leads with a forest area of about a million and a half acres. Governor Hughes recommends its extension and the replanting of spruce and pine upon a large scale.

In 1906, a charge for grazing in the forests was first established, to succeed the policy of free grazing. This was a most important step in the preservation of our national resources. Its logical outcome is seen in several states, including Texas, Wyoming, and Washington, which have adopted a system of leasing state lands suitable for grazing. From this means alone Texas derived in 1902 a revenue of $457,656. The federal Public Lands Commission reported in favor of extending this leasing system to all the 300 million acres of public grazing land, which constitute one-fifth of the area of the United States. This recommendation is prompted by the abuses of the present pernicious system of free grazing, from which naturally and inevitably, overstocking results in the consequent ruin of millions of acres. The once free and open range of the West will soon be held in trust by a beneficent national government and managed in the interests of all the people — its owners — although the thriving cattle-kings demand to be let alone.

SOCIALISM IN OUR COLONIES

But it must not be supposed that Uncle Sam is manifesting strong socialistic tendencies merely in matters domestic. Abroad and in his colonial dependencies, he has been even more radical along the same lines, as is abundantly shown in the Philippines, Panama, and elsewhere. He has proved his ability to construct and operate telegraph, cable, telephone, railroad, and steamship lines with business efficiency. And by the maintenance of cold-storage plants, hospitals, etc., he has demonstrated his belief that he owes a debt of social service to his citizens outside the States.

The United States Government owns and operates one of the longest and most intricate commercial cable and telegraph systems in the world — the Washington-Alaskan system, which joins the cities of the United States and the world in general with the towns and cities of the Alaskan Coast, the Yukon valley, and the region around the Bering Straits. This Government cable would reach from Newfoundland to the Irish Coast, and the land lines would stretch from Washington to Mexico. The Federal Government built the northern part of this line through a wilderness, wild and trackless, and laid down the thousand miles of ocean cable between Sitka and Seattle more cheaply than any of the commercial cables were established by private capital. When this cable was ground in two by icebergs, the gap was bridged by a wireless system which is at present the only one of its kind, operated as a part of a telegraph system and engaged in commercial business. After three years of operation, this cable line is worth more than the United States paid for it; the business done over it for commercial firms amounts to $200,000 a year; the rates are lower than those charged by any private company; and no error has yet been charged in any of the multiform commercial codes used.

Neither arctic cold nor tropic heat can check Uncle Sam's activities. Amid the Alaskan snows he published daily press

bulletins containing the cable news from all parts of the world, and for his servants in torrid Manila he built a Philippine Simla. After exploring the mountains and discovering the site of Baguio, he staked out a township, sold the lots at auction, and expended the receipts in beautifying the resort.

Cable and telegraph lines have also been officially built and operated in the Philippines. One section was put through a piece of country so difficult to traverse that every pioneer lineman who made the round had to be carried to a hospital. At present, 6,322 miles of land lines and 1,437 miles of cable, besides twenty-four telephone systems, are operated in the Philippine Archipelago at rates which are fixed according to the postal system, irrespective of distances.

In Porto Rico, the Government is operating telegraph and telephone lines so profitably that a few months ago the price of telegrams was reduced. The smallest towns in the most remote part of the Islands are connected with telegraph stations by the telephone.

In the Philippines, every post-office is a postal savings-bank. Deposits, however, large or small, are received at these banks and may be withdrawn from any other Government bank. Not content with thus providing for the inhabitants, Uncle Sam, a foster-father to the Philippines, conducts in the Islands thirteen official slaughter-houses according to up-to-date sanitary methods, and controls a cold-storage industry in Manila which is an economic revelation. By selling distilled water and ice guaranteed to be pure, the Government adds greatly to its earnings. In 1906, the net profits from the ice works paid for the entire cost of the plant.

In Manila, Government tenements are rented to working men, and outside the city there are tenants on Government farms, and trading stores in many of the islands, besides Government sawmills and peripatetic libraries. The Government itself publishes a newspaper and a popular and scientific monthly magazine.

SOCIALISM IN THE CANAL ZONE

In the construction of the Panama Canal — a work unprecedented in magnitude and unequaled in difficulty — the people of the United States have again borrowed from socialism. This undertaking, including sanitation, the expenses of the zone government, and the re-equipment of the Panama railroad, will cost nearly three hundred million dollars, and its complete organization is socialistic. The directing board is appointed by the President of the United States, and its members are salaried by the nation and responsible to the nation. Its personnel is as follows: three officers of the Corps of Engineers of the United States Army; the Chief of the Bureau of Yards and Docks of the United States Navy; a medical officer of the army and two civilians. Included in the industrial regiments under those men, there were on June 30, 1907, 24,446 men — skilled and unskilled, American, West Indian, and European, all brought together under great difficulties. The climate of the zone made their care a matter of first importance. With this in view, the unhealthy conditions have been energetically and scientifically overcome by draining and clearing, by the extermination of the malarial mosquito, and by the paving of streets and the construction of waterworks and sewer systems in the cities of Panama and Colon.

With the comfort and welfare of the employees in mind, four club-houses have been built, and are now under the management of the Young Men's Christian Association. A chapel has been erected, besides three other two-story structures suitable for religious services, the upper floors of which are fitted up as lodge-rooms for the various orders and societies found among the employees. The construction work of the commission includes also bachelor and family quarters, barracks, bath-houses, cook-sheds and kitchens, hospitals, office-buildings, a large hotel, a machine and car-repair shed, an engine-house, shops, commissaries, sanitary store-houses, fire-department buildings, jails, post-offices, and fumigation houses.

The eight-hour law is applied to American labor, and it is thus protected from the rapid exhaustion of overwork in the tropics. The attitude toward the workmen of a Government department, working under public observation, is exemplified by the invitation extended by President Roosevelt to Mr. Samuel Gompers, the president of the American Federation of Labor, and to other labor representatives, to visit the zone, examine the treatment of the workman, criticize freely, and recommend improvements.

In connection with the work on the Isthmus, the Federal Government owns and operates a steamship line between New York City and

Panama, which consists of five passenger steamships, fitted with electric lights and wireless telegraphy. Efficient management of this line resulted in an increase in freight earnings from $788,000 in 1904 to over $1,000,000 in 1905. In 1906, despite the lowering of passenger and freight rates, the total earnings increased to $1,347,012. These steamers load and unload at Government docks, whose handling facilities are not excelled in speed and economy in any part of the world. The Panama Railroad, which connects Panama and Colon and distributes the steamer freight along the work, was operated by the Government so advantageously that its earnings in 1906 showed a 14 per cent. increase.

Collective ownership and control under a democratic government have never been tried before on so vast an industrial enterprise.

CONSULS AS SOCIALISTIC SERVANTS

The Consular Service is a socialistic organization, with officers in every important city of the globe, which serves as the eyes and ears of the manufacturers in the States. The functions of consuls have been very much extended within recent years. Their present duties consist in enlightening the people in their districts in regard to the superiority of American products, and in encouraging and facilitating the importation of such products into their districts. Possible buyers are invited to visit the consulates and examine the catalogues and samples of American goods kept there for inspection. And American trade journals are usually kept on file by the consul for the use of foreign buyers. Further, each consul is required to furnish commercial information for official publication in America. Daily and monthly bulletins, issued free with Uncle Sam's usual communistic generosity, keep manufacturers informed of the opening for their goods abroad. Each consul is, in effect, a trade drummer, maintained by the community for community advantage. It is his duty to bring to the attention of home manufacturers any opportunity to supply machinery, electric power-plant equipment, motor boats, automobiles, etc. Only recently he has been instructed to furnish systematized lists of the merchants in his district who handle or might be induced to handle American goods. This information is indexed and filed and, when complete, will constitute a business directory covering the world in every line of industry. Such a work could only be consummated through a strong Government bureau. For this work the nation coöperatively provides, because the nation collectively benefits.

SOCIALISM IN PUBLIC UTILITIES

In respect to the outright government ownership of public utilities, it is the municipality rather than the state or nation which has been most active. Municipal socialism is growing apace. From 1800 to 1900, public waterworks in the United States developed in round numbers from 6 per cent. to 60 per cent. of the whole number. Of the fifty largest cities in the United States, only nine are now dependent on private companies for their water-supply. Some of the belated nine appear to be on the point of changing to municipal ownership, and in practically all of them an agitation for such a change is in progress. Of the thirty-eight cities with a population of more than 100,000, only eight have private ownership. Of these, New Orleans will soon take over its waterworks, and Omaha is hesitating only over the question of price. Of the thirteen largest cities, only San Francisco, which ranked ninth before the earthquake, has a private supply.

The municipal ownership of gas has not been tried on quite so considerable a scale. Still, the growth has recently been rapid. Whereas in 1890 there were only nine municipal gas plants in the United States, there are now twenty-five, not to mention eighty-four small places selling acetylene, gasolene, and natural gas. The largest municipal plants are at Holyoke, Duluth, Richmond, and Wheeling. Thirty smaller cities in the United States and Canada possess municipal gas works.

Even more remarkable has been the recent development of municipal electric-light plants. Of the plants that were started prior to 1899, only 11.4 per cent. were municipal, while 27.8 per cent. of the stations opened from 1896 to 1902 were of this kind. Seven large cities — Chicago, Detroit, Allegheny, Columbus, Seattle, Grand Rapids, Nashville — have municipal electric-light plants. In the smaller cities, where the profits of over-capitalization have been less tempting to financiers, municipal ownership is most extensive. Altogether, no less than 1,055 places in the United States practise this bit of municipal socialism.

In all these cases, on the word of the Commission of the National Civic Federation, the municipal plants for providing water, gas, and electricity have done far better for the tax-payer and consumer than the private plants in anything like the same situation. Prices have been lowered and the plants paid for largely out of the earnings.

SOCIALISM IN NATIONAL LEGISLATION

There are in the United States many strong socialistic tendencies which have not as yet assumed very tangible shape, but which contain the germs of pronounced socialism. The attempts at railroad regulation, and the Interstate Commerce Act of 1906 would seem to lead eventually to public ownership. The factory acts, child-labor laws, ten-hour and eight-hour laws are all significant as showing the trend of national activity. The remedies which are proposed for the sickness which became acute last October in the financial panic involve, nearly all of them, a wide extension of collective or socialistic powers in the hands of the Federal Government. The bill of grievances of the Federation of Labor prays for Federal regulation in many of the most important concerns of labor. And the new charity, in its programme as voiced by the Charity Organization Society, the official mouthpiece of organized charity, places its hope in nothing else than an Americanized socialism. Recognizing that poverty is not due to the individual, but to social neglect and economic maladjustments, the new charity is fighting for tenement-house laws, child-labor laws, control of corporations through public-utilities commissions, sweat-shop regulation, and the forfeiture of some anti-social sources of income.

President Roosevelt denounces Socialism in one paragraph of a message to Congress, and recommends in a following paragraph the extension of such socialistic activities as the national ownership and operation of forest reserves and the collective reclamation of swamp and arid lands. Secretary Taft scornfully condemns Socialism in a speech one night, and the next day recommends that Congress shall build a second line of steamers owned and operated on socialistic principles. A Western publicist declares Socialists fit only for the gallows, and proceeds to extol the features of the reclamation of arid land which are borrowed from Socialism.

So far are theory and action divorced, that we can picture a city alderman lauding private enterprise and the source of American greatness, and denouncing collective enterprise as impossible. And yet, he walks down a city street, which the city sweepers are cleaning and the city repairers improving, to the city subway by which he reaches his office in the City Hall. There he washes his hands in city water, and runs the waste into a city sewer. He turns on the city electric light, and reads the mail which national departments have brought him from the ends of the earth. He glows with pride as he reads how gallantly his national army has subdued some Indians, and how cleverly his national navy has rounded Cape Horn. From his city newspaper, the *City Record*, he discovers that a meeting held the night before has decided to interfere socialistically with the outrageous capitalist management of the street cars. Before long, perhaps, his children come in from the city school, where they have had a school meal at cost price, to tell him that they are going to play that afternoon in the city playgrounds, and that his wife wishes him to call her up on the coöperative telephone to set an hour for their walk in the city park before taking the city ferry to the city swimming-baths. They all want him to take them later to hear the city band, though the lads would prefer to put in an hour or two at the city gymnasium, and the girls at the city library.

But the alderman can do none of these things, for he has engaged to give an address on "Socialism — Un-American and Dangerous" at the State University, of whose president, a state official, he intends to inquire how the eldest of his sons can prepare himself for the socialistic Arid Land Reclamation Service, and to find out at the same time what courses of study should be followed by his other two sons, one desirous of joining the socialistic Panama Canal work, and the other destined for the National Academy at West Point. Thus engrossed, he sends the children away after giving them some money, coined by a national department, with which to buy on the way home some meat and groceries which have been socialistically inspected and guaranteed, while he goes to the hotel, which is socialistically licensed, and drinks a bottle of wine that has been socialistically tested for purity. And then he feels properly primed to denounce "that foreign product — Socialism."

Mr. Wilbur Wright

Mr. Orville Wright

THE AIRSHIP IS HERE

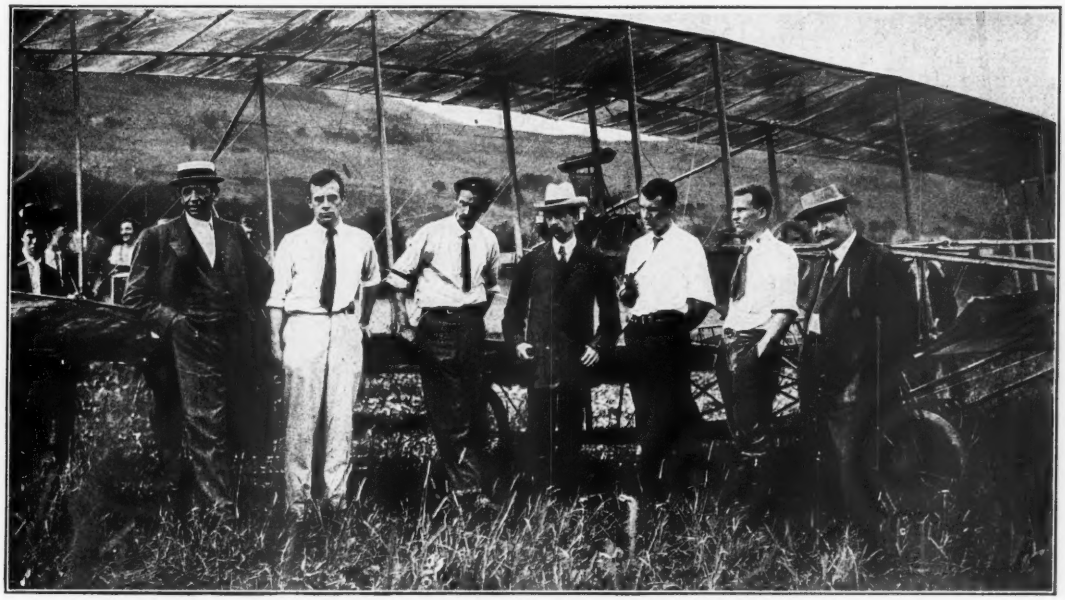
HOW THE AEROPLANE LOOKS, HOW IT MOVES, HOW IT IS BUILT AND MANAGED—GOVERNMENTS GETTING READY FOR POSSIBLE AIR BATTLES —THE GREAT ZEPPELIN WAR BALLOON AS LONG AS AN OCEAN LINER—OUR AERIAL EXPERIMENT STATION—INSIDE AN AIRSHIP SHOP—UNKNOWN THINGS ABOUT THE AIR—POSSIBILITIES OF THE FUTURE IN FLIGHT, IN FREIGHT, AND IN TRAVEL

BY

FREDERICK TODD

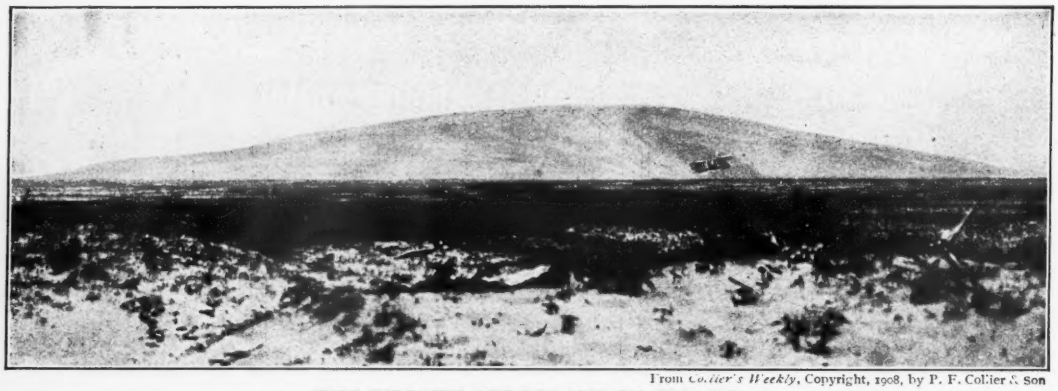
A PUFF of white smoke, a rapid-fire splutter from an eight-cylinder gasolene motor, a whirr of propeller blades in the air, and the white aëroplane on the country race track starts gracefully forward, gaining speed as it glides through the dusk. Suddenly it lifts and takes a curving upward flight, this strange creation of muslin, light wood strips, and cross wires; and then it comes sailing over head and continues a swaying, swooping, uncertain flight down the valley.

A little group of people in the centre of the race track raise a shout. A dozen men standing two by two with watches in their hands at distances down the track also shout. Then comes a chorus from the crowd of onlookers along the railroad embankment on the hillside. Even the portly old gentleman with snowy hair and beard, who has been watching with his wife, puts dignity aside, takes off his hat, and waves his arms. The flying machine keeps its flight down the valley for more than



THE "JUNE BUG" AND AERONAUTS WHO WATCHED ITS FLIGHT AT HAMMONDSPORT, N. Y.

From left to right they are Mr. A. M. Herring, who has made successful flights in secret; Mr. Baldwin and Mr. Curtiss of the aërial experiment station; Mr. Charles A. Manley who collaborated with the late Professor Langley; Lieutenant Selfridge, U. S. A.; Mr. J. A. D. McCurdy; and Mr. A. R. Hawley, acting president of the Aëro Club: the photograph was made at Hammondsport when the *June Bug* made its first long public flight



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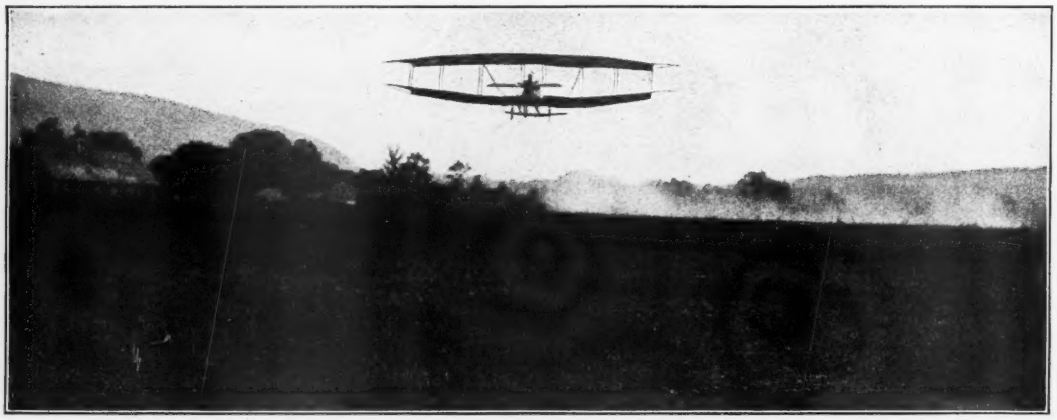
THE WRIGHT AEROPLANE IN FLIGHT

It successfully carried two men in trial trips along a barren sand on the North Carolina Coast

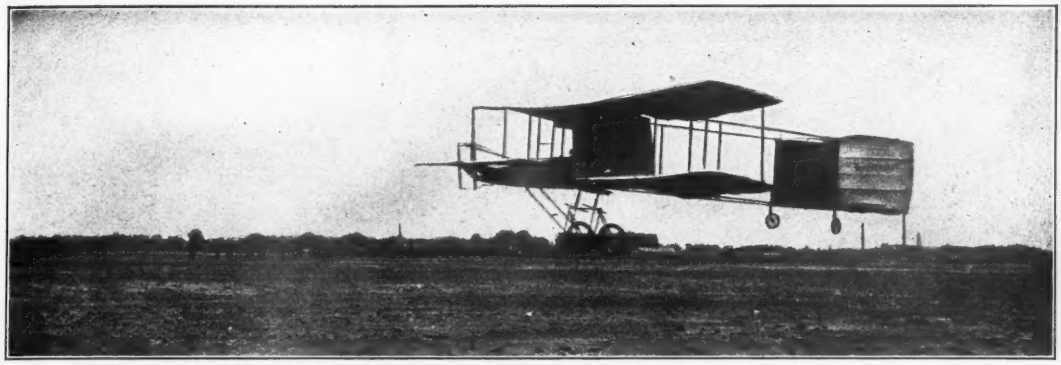
a quarter of a minute, which seemed very much longer than any other fifteen seconds ever seemed. This is the way Mr. Curtiss's *June Bug* appeared when it made its first successful public flight at Hammondsport, N. Y., on June 21st.

The man flying in the machine was plainly visible from the ground as he turned the guide wheel or pushed it firmly to the front or the back, moving fan-like rudders and hinged planes set well out in front and behind the two great square wings, one over the other, between which he sat. When the machine careens he leans naturally toward the upcoming wing as if to balance it, and with his sway the outer tips of the long supporting planes bend like the pinions of a great bird's wings; and the flying structure swings back to the level in the air. The man seems a part of the machine, so natural are his movements, and so natural is the response of the aëroplane to them. Still there is awkwardness and uncertainty in the flight. In a second a rising breeze carries the thing off its course, in spite of all he can do. Dead ahead is a telegraph line. Afraid to attempt flying over it he swoops gracefully downward and lands gently upon the earth. And thus ends the first quarter-mile flight in public of an aëroplane in America.

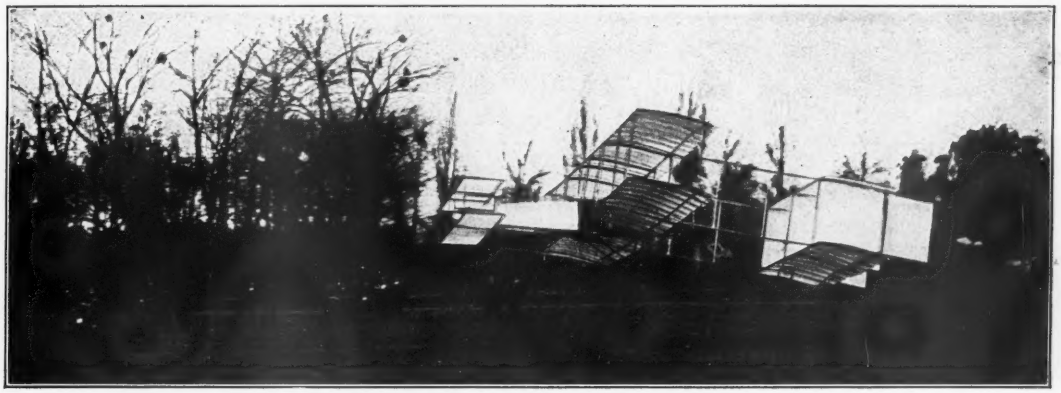


THE "JUNE BUG" IN ITS MILE FLIGHT, JULY 4, 1908

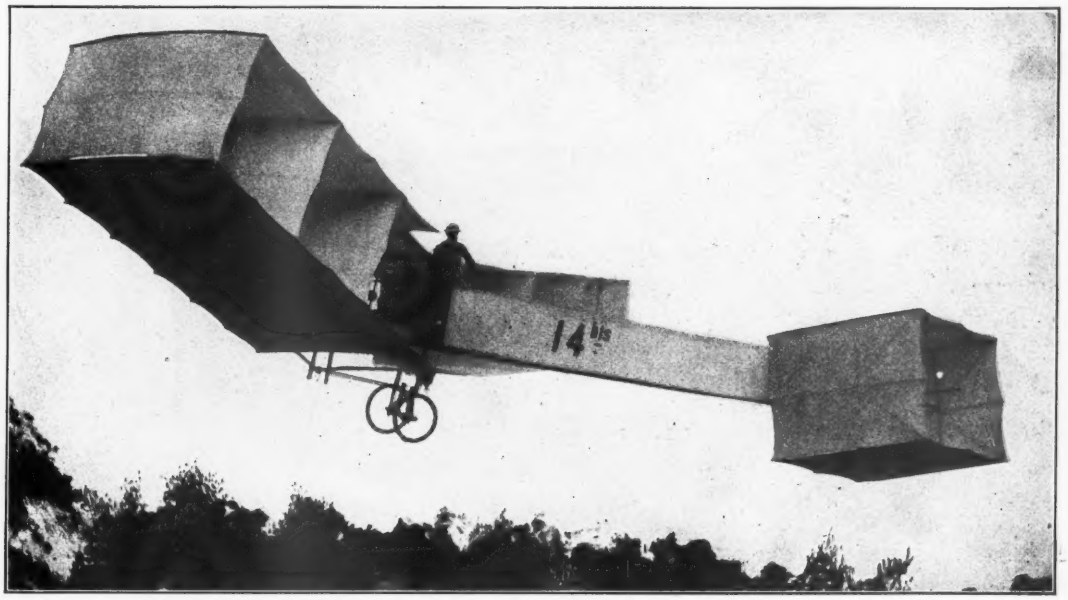
The aëroplane is coming head-on. Mr. Glenn H. Curtiss, its maker, is seated just above the lower wing. In front is a horizontal rudder and in the rear, seen below the lower wing, is a tail to which a vertical rudder is fastened. At the outer ends of the wings are horizontal "flippers" that correspond to the outermost pinions of a bird's wings. By leaning to one side or the other Mr. Curtiss pulls wires that set these little rudders down on one end and up on the other, and can thus cause the machine to tip sidewise, in rounding a turn, or come level when a wind current starts to overturn it. The gasolene engine and the single propeller are behind the aviator. The wheels of the chassis show below the wings



M. FARMAN'S AEROPLANE IN FLIGHT

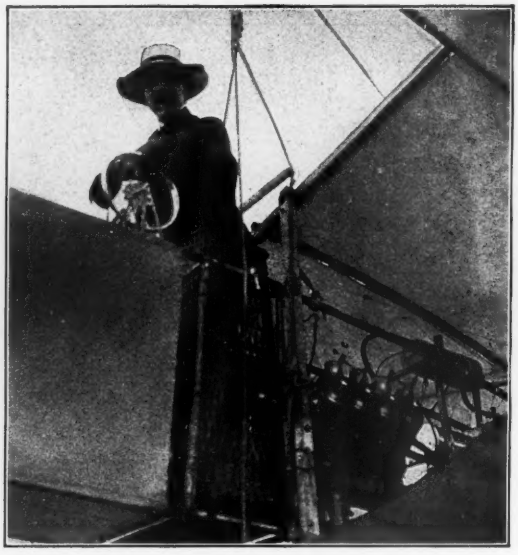


M. DELAGRANGE UPON ONE OF HIS TRIALS



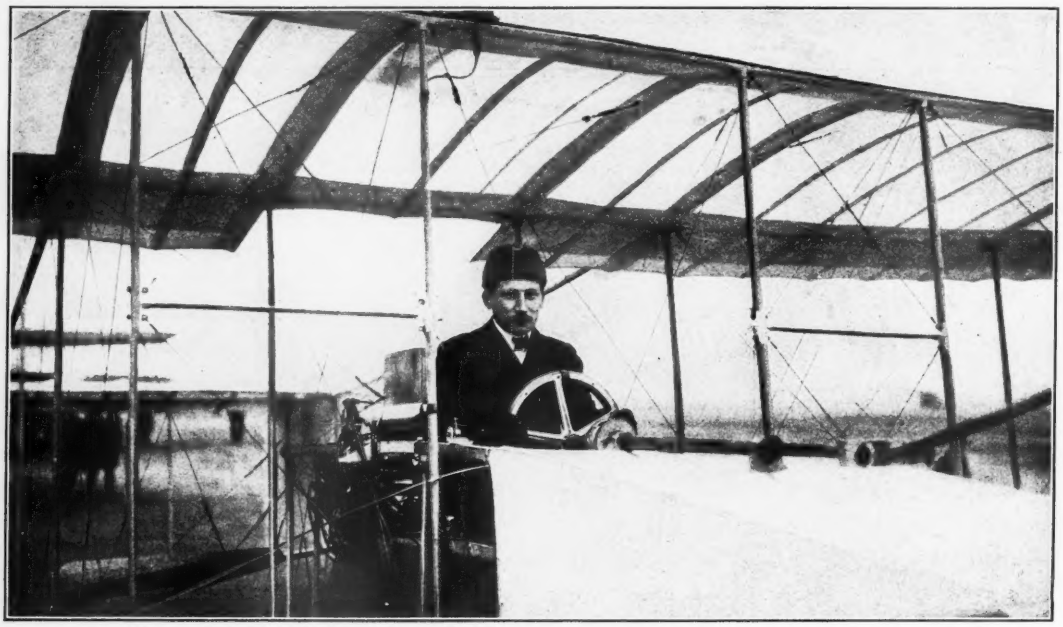
THE "BIRD OF PREY," M. SANTOS-DUMONT'S AIRSHIP, ABOUT TO ALIGHT

HENRI FARMAN IN HIS AEROPLANE



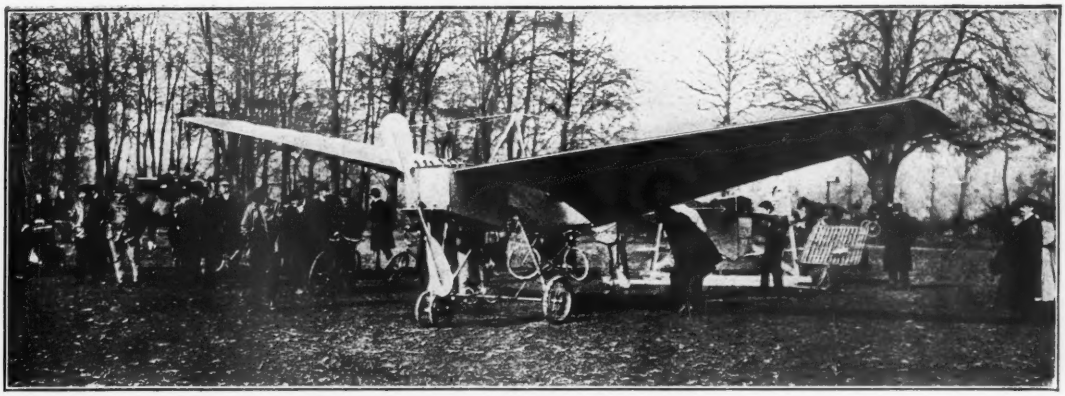
SANTOS-DUMONT IN THE CAR OF HIS "BIRD OF PREY"

It was only the trial of a hastily built experimental machine in the hands of a young man who had never before been up in the air for an aggregate of thirty seconds in all his life. It does not compare with the twenty-four mile trip made by Wilbur and Orville Wright in Ohio three years before, but that was made in secret; it is like the awkward, tumbling attempts of a young robin, compared with the better steadied flights of Mr. A. W. Herring, among the hills back of the Hudson River, where he has ridden twenty-one miles, also in secret. It was not as notable as the sixteen and twenty minute flights of Farman and Delagrange, which Europe's champion aviators, made in public. But it was



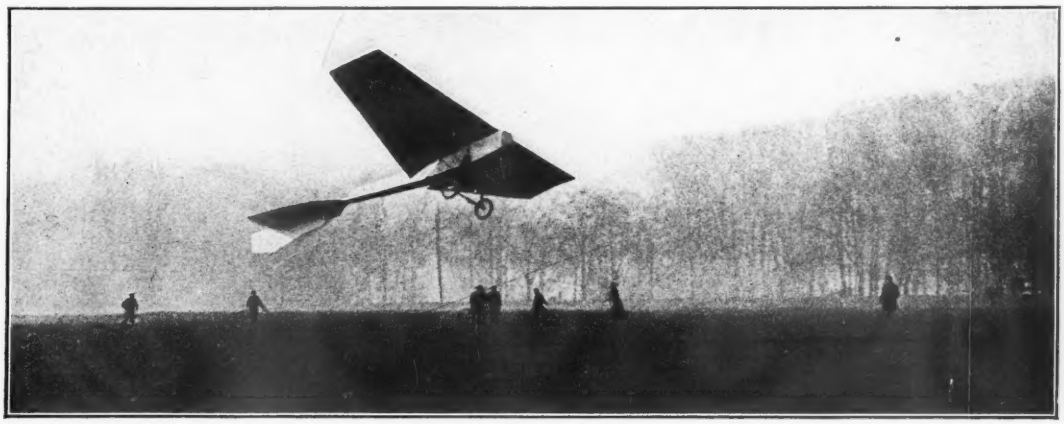
M. DELAGRANGE READY TO SOAR

The curve of the under surface of the aëroplane "wing" is plainly shown



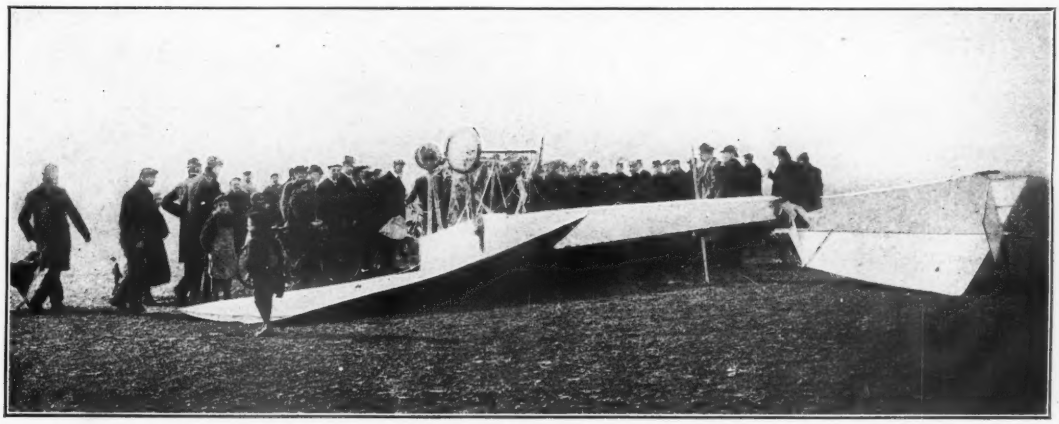
THE GASTAMBIDE-MENGIN MONOPLANE

French engineers are trying to perfect aëroplanes with wings on a single plane, after the type Professor Langley invented



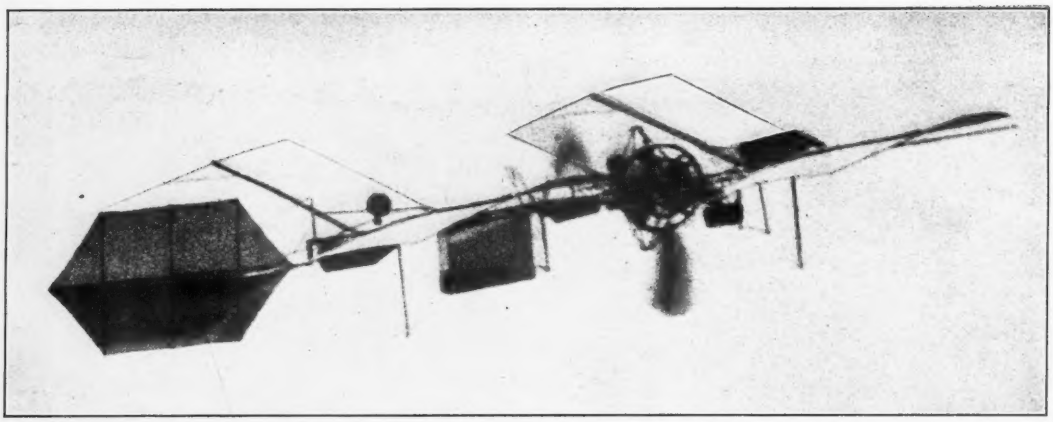
THE TRIAL FLIGHT

The monoplanes fly but, so far, have shown unsteadiness and liability to turn over in flight

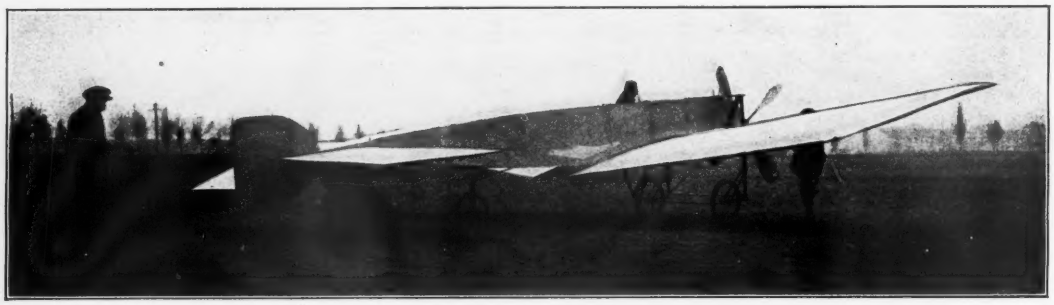


THE WRECK OF THE MACHINE AFTER A SOMERSAULT IN THE AIR

Experts in flying believe that after experiments have evolved a better arrangement of tail and rudder, and more is known of aërial dynamics, the monoplane will become a practical flying machine



LARGE MODEL OF PROFESSOR LANGLEY'S AEROPLANE IN FLIGHT



THE MONOPLANE OF M. BLERIOT JUST BEFORE THE TRIAL FLIGHT

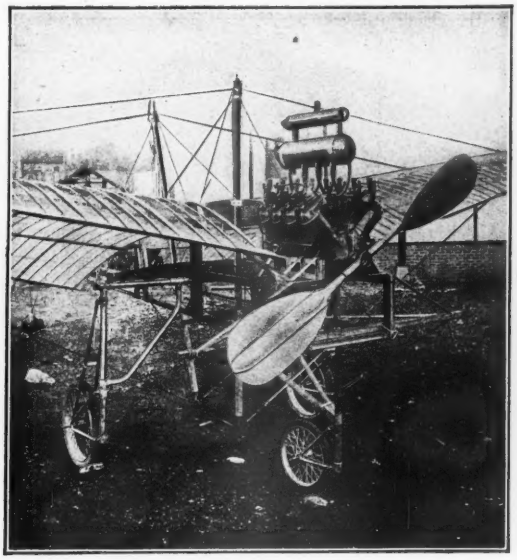
a real ride through the air nevertheless, seen by everybody who was willing to walk two miles out from the town of Hammondsport.

IN A FLYING-MACHINE SHOP

Moreover, if, when you go back to the town, you will climb the gravelly hill from the town square, you may go without hindrance right into a big barn-like shop in which half a dozen men are busy in a very matter of course way planing the slender spruce timbers of a dirigible balloon frame, varnishing the thin wooden blades of an aërial propeller, or stretching fabric over wings made of the lightest hickory

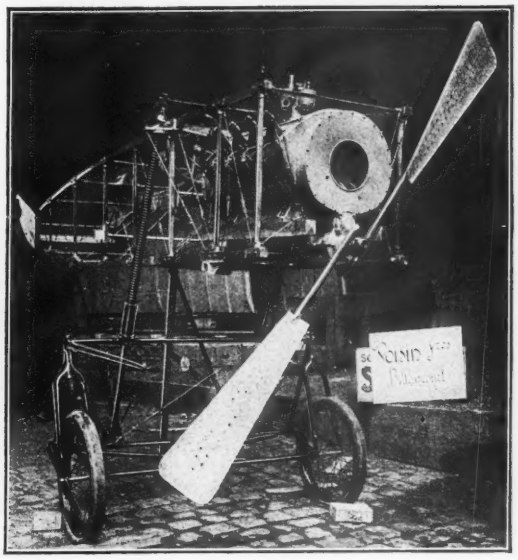
THE FINISH OF M. BLERIOT'S FLIGHT

The same result which attended the Gastambide-Mengin monoplane



THE ANTOINETTE GAS MOTOR

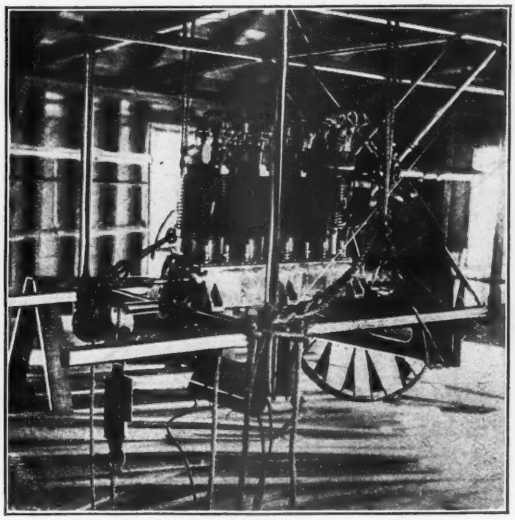
This is the motor most used in French flying-machines. The development of gas engines made the aëroplane possible



THE VOISIN MOTOR

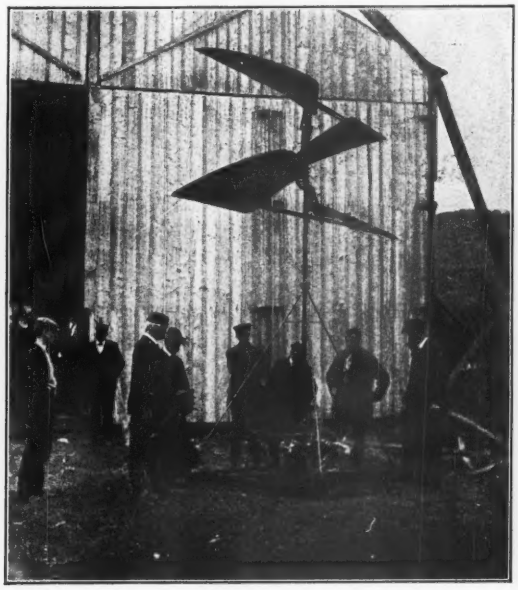
Another type of French gasolene engine. In America the Wrights and Mr. Herring designed their own motors

sticks; while the strange paraphernalia of every kind of flying machine hangs or lies everywhere about. You feel at first as if you had stepped into the door of a castle in Spain, you who have just come up on a sleeping car from New York. It takes some time to regain your sense of reality. But the workmen talk about fitting ball-bearings upon the crank-shaft of this "dirigible" (they never add "balloon") or say that there is too much pitch to the blade of that airship propeller, or argue over the best way to make the light steel braces hold together the wood strips in the tail of an aëroplane. And so you get back to realities and find that you are in a country town in the United States — and have merely walked into a flying-machine

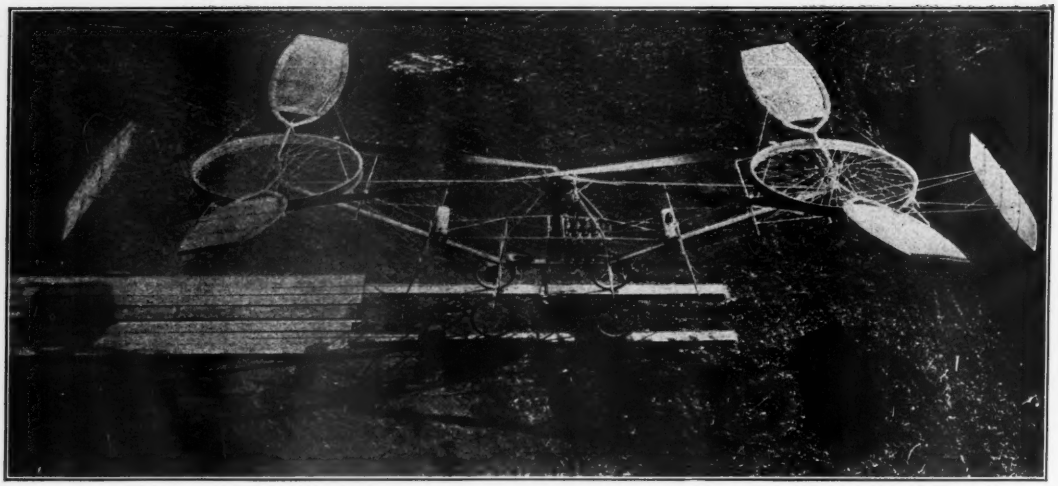


FORTY HORSE-POWER AERIAL GAS MOTOR

This is an American forty horse-power motor gas engine, built at Hammondsport for Captain T. S. Baldwin's military dirigible balloon



TRIAL OF THE WILLIAMS HELICOPTERE AT HAMMONDSPORT, N. Y



THE HELICOPTERE OF M. CORNU

This kind of flying machine has not yet come to the point of practicability. It is designed to rise straight into the air, lifted by the horizontal propellers

factory. For flying machines, in fact two utterly different kinds of flying machines, have become a reality in this year 1908.

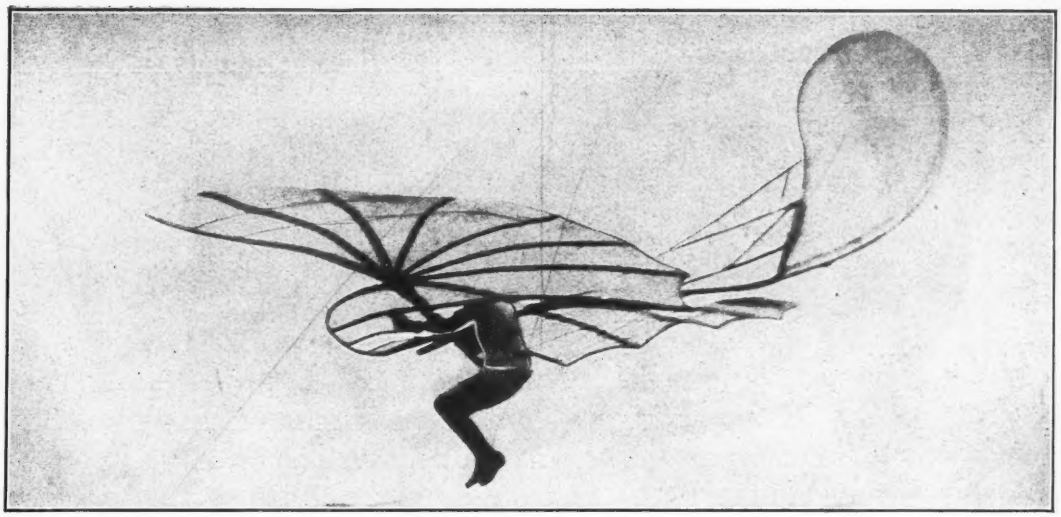
ZEPPELIN'S WAR BALLOON

A party of five Americans (Kansans, they were) were automobiling on the first day of July among the northern Alps of the German frontier. As they came from among steep rocks at a turn in the road, they were silenced by what they saw. For there, far above them, flying across the wide valley upon its sky-voyage, was the great Zeppelin airship.

There was something almost frightening

THE AERIAL EXPERIMENT ASSOCIATION

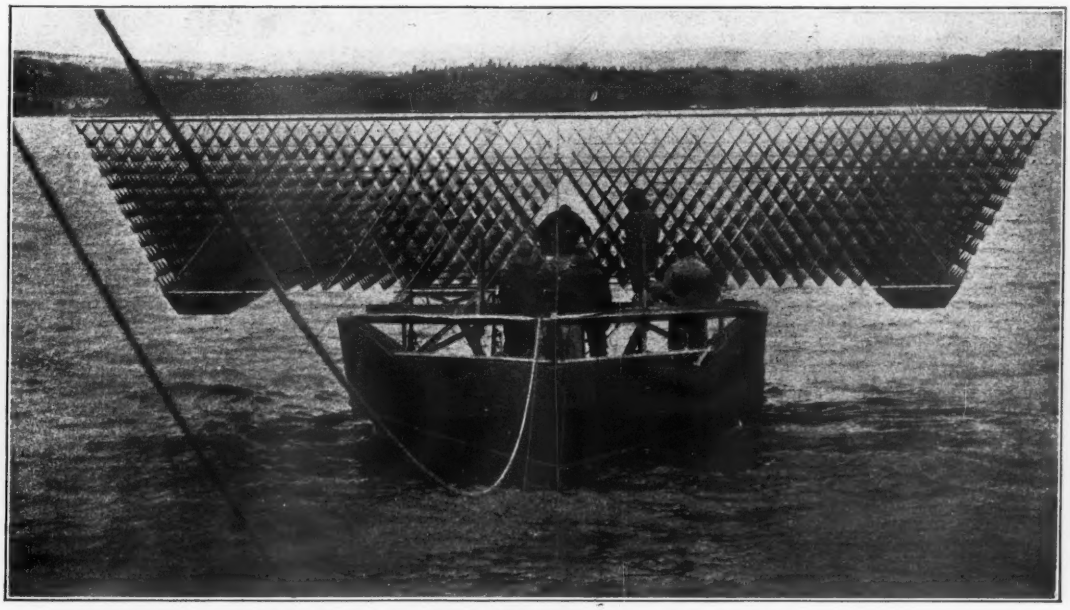
From left to right Mr. F. M. Baldwin, Lieutenant T. E. Selfridge U. S. A., Mr. Glenn H. Curtiss, the builder of the *June Bug*, Dr. Alexander Graham Bell, and Mr. J. A. D. McCurdy. On the right is Mr. Louis Post of the Aëro Club of America.



OTTO LILIENTHAL AND HIS GLIDING KITE

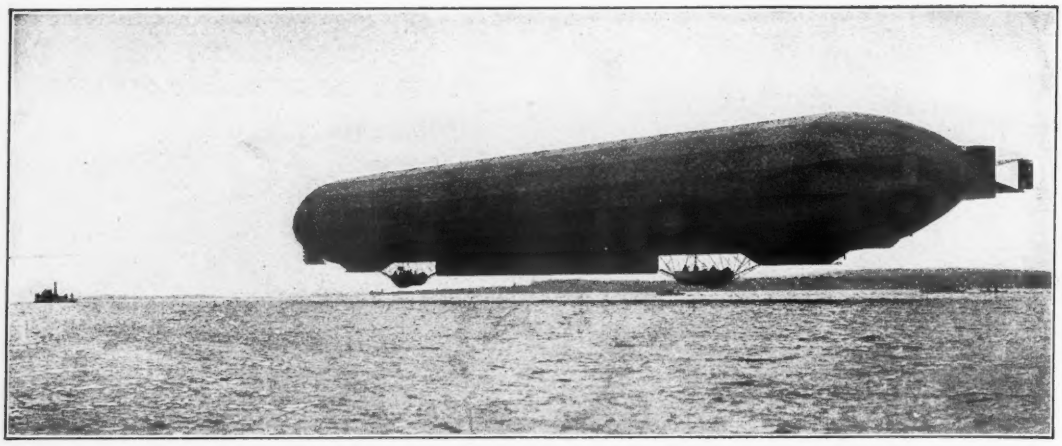
His experiments in balancing and gliding called attention among scientific aëroplane inventors to the necessity of practical knowledge of these things before a successful flying machine could be designed. He was killed while practising, but Mr. Herring and the Wrights followed his example in first constructing gliders that were steady, and then attaching motors and propellers

about it, as bigger and bigger it came onward until it was right over them. It was as if the *Mauretania's* swelling underhulk were swinging above them. Although lighter than the air-space it fills, the gasbag of Germany's war balloon is a huge thing to look at, nearly five hundred feet long and with the beam of an ocean liner. Whirling propellers flash in rows along the sides, and suspended in the shadow of the bellying aërostat are cabin and



DR. ALEXANDER GRAHAM BELL'S TETRAHEDRAL WING STRUCTURE

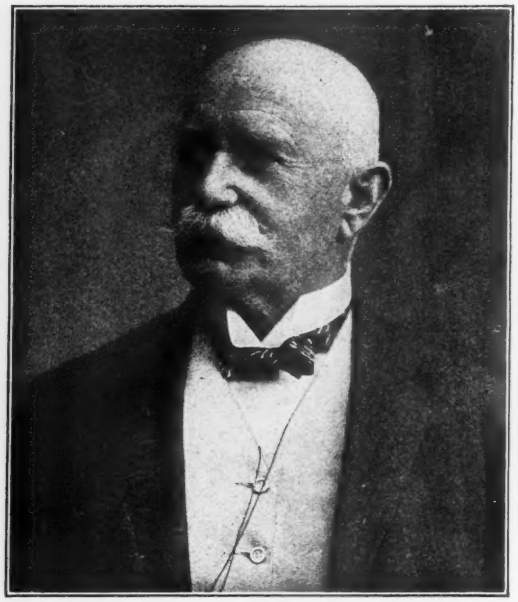
This is the Bell glider being tested on a float. By attaching rudders and motors Dr. Bell believes he will make an aëroplane that will fly at a slow speed and be steadier in gusts of wind than any other design of flying machine



THE ZEPPELIN AIRSHIP SAILING OVER LAKE CONSTANCE

This dirigible balloon consists of a row of ordinary round balloons with a stiff structure built around them. The machine is intended to be just light enough to balance gravity. With powerful engines and systems of side planes it is propelled forward, pointing upward or downward at the command of the helmsman. It is radically different from the French dirigible balloons and combines the aëroplane and the aërostat

bridge and afterdeck joined together with narrow gangways, all securely railed and partly enclosed in canvas. Back and forth along the airy structure a dozen men are moving. With glasses they can be seen hauling at ropes to set at different angles the flat wings that extend from the sides of the balloon's body at some distance above their heads. But for the most part it is evident that rudders and steadying planes move in continuous obedience to the wheel of a helmsman.



COUNT VON ZEPPELIN

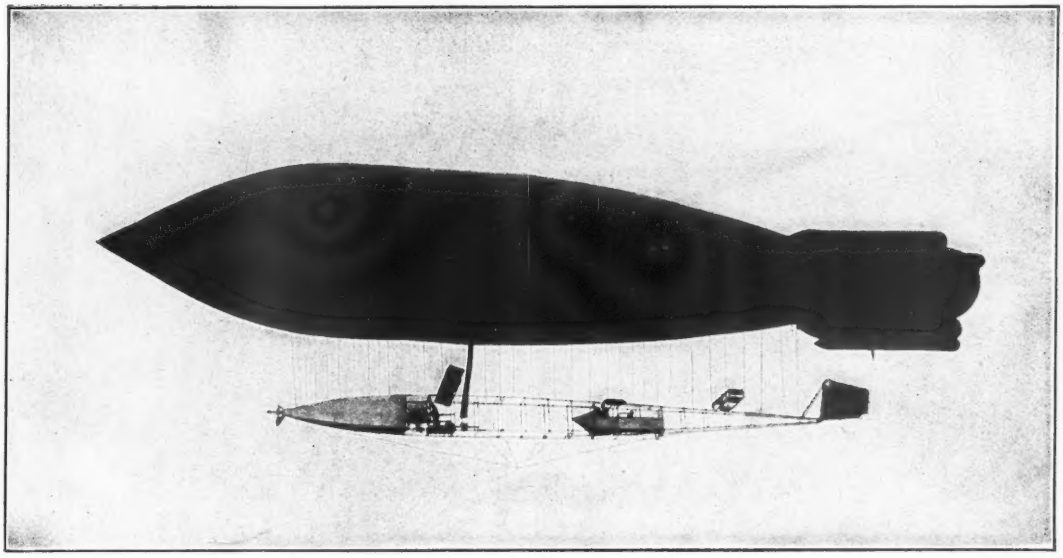
Inventor of the flying machine that has proved beyond doubt the practicability of aërial navigation upon a large scale

And thus the big battleship of the air moved on across the valley and passed up over the tops of a range of mountains to the eastward, continuing its wonderful maiden voyage over the German-Swiss frontier, and keeping the telegraph wires and ocean cables of the world busy for twelve hours, as it appeared over town after town within the German boundary on its way from Lake Constance to Friederichshaven; and then sailed over the Swiss Alps to show itself over Geneva, with its thousands of tourists from everywhere.

It was not only the rude peasants in the forests and villages and the Swiss shepherds that were filled with awe at the sight of the monster airship. There were men in European capitals, ministers of war, who had known that such a thing would be successfully launched at some time and had been trying to prepare for it, but who that day had it brought sharply home to them that the airship had arrived and that the nations must get ready for possible aërial warfare.

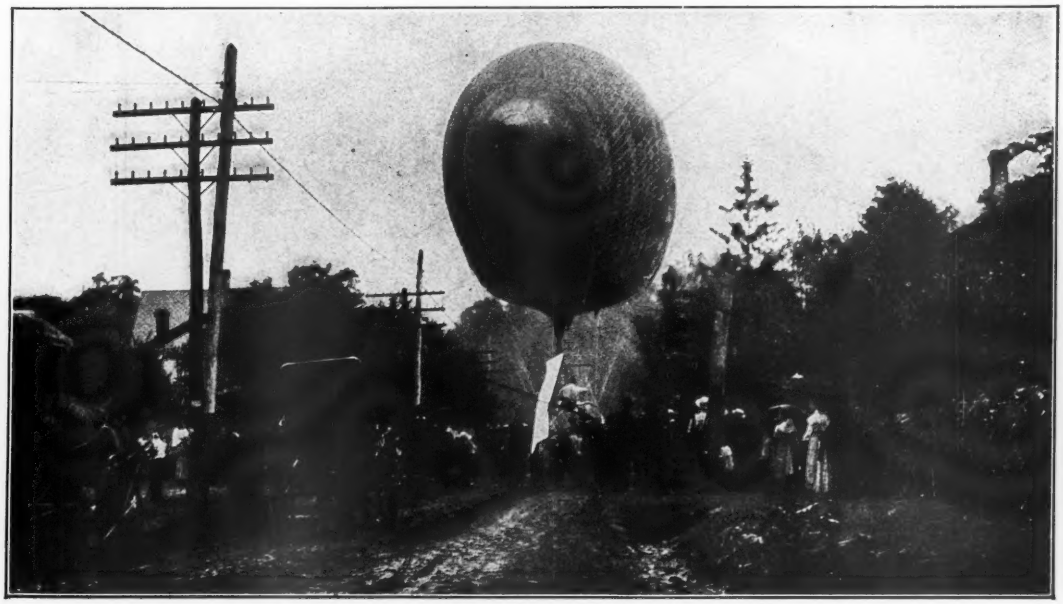
GETTING READY FOR SKY BATTLES

The long discussion at the last Hague Conference, as to how the laws of war shall govern flying-machines, is not the only sign that all military powers have seen the airship coming. They have been all astir about it, mostly in



"LA VILLE de PARIS"
One of the French Government's dirigible balloons

secret. It is a fair estimate that they have spent millions of dollars in experiments during the past year. The same cable that announced the Zeppelin triumph told how a German dirigible had collapsed over one of the inland forests. Nobody had heard of that balloon before, or knew what it was doing there. England has established a closely guarded camp for aërial experiments among the lonely fastnesses of the Grampian Hills, in Scotland. Likely enough Germany has done the same thing in the depths of the forest. Russia is building four big balloons. Sweden, Italy, Denmark, Spain, even little



IN A BY-WAY IN THE COUNTRY
Dr. Julian P. Thomas's balloon ready for an ascent

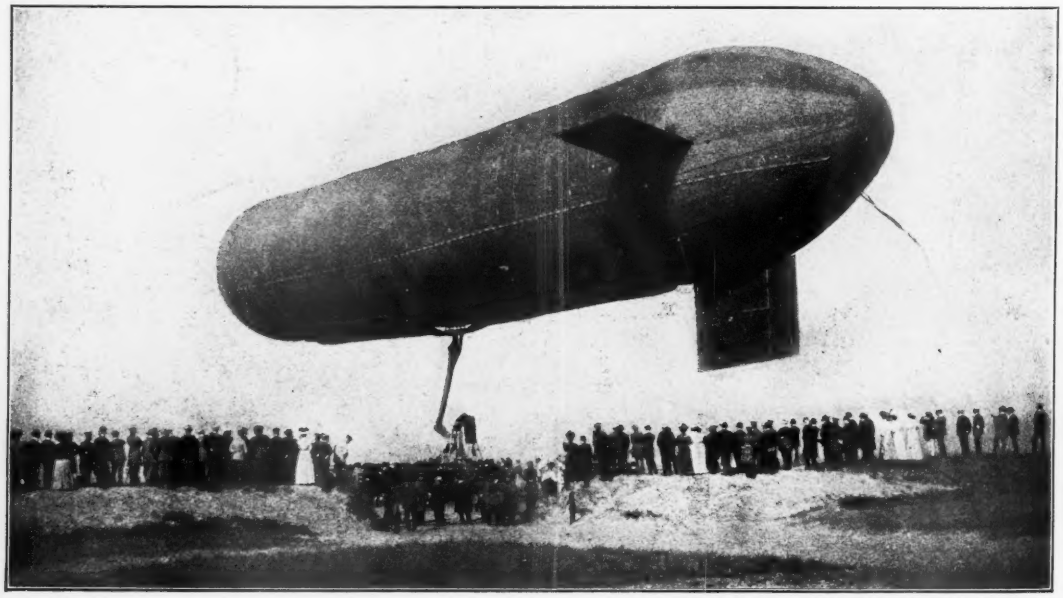
"NULLI SECUNDUS" ABOVE ST PAUL'S, LONDON

Nulli Secundus, the English airship of war, was caught in a high wind and was saved from destruction only by quickly ripping the gas bag and collapsing it

"LA PATRIE" SAILING OVER PARIS

La Patrie, the French military dirigible balloon, was blown away in a storm in spite of the efforts of its military guards to save it

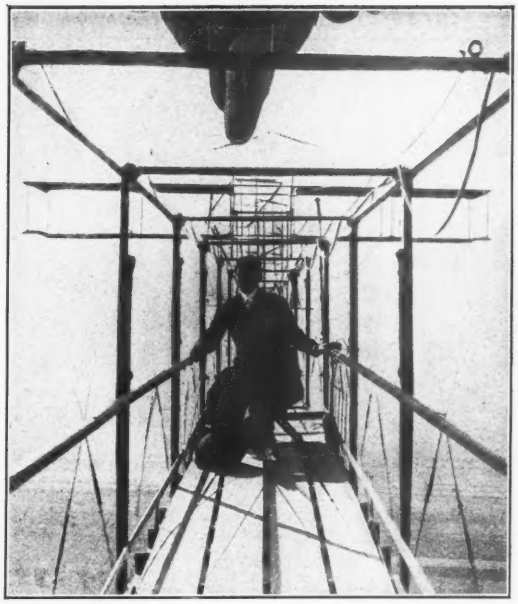
Greece, have their military officers at work and watching. For three years it has been known to the Wrights and to Mr. Herring that highly trained experts were quietly watch-



THE GERMAN MILITARY BALLOON OF VON PARSEFAL

The efforts of its inventor have been put forth to design a dirigible balloon that needs no stiffening frame of wood

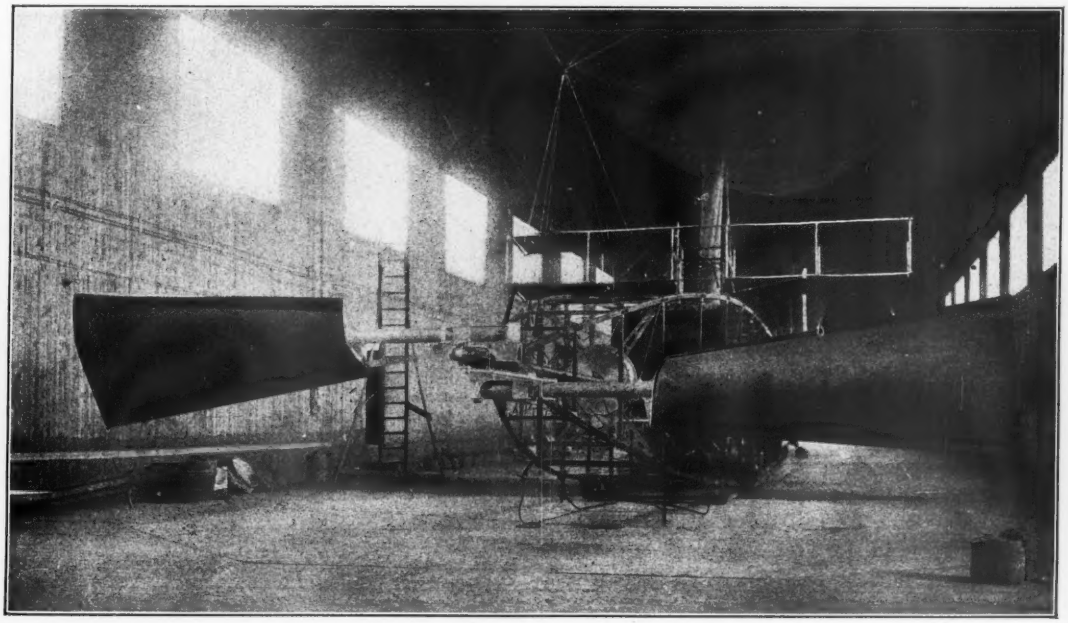
CAPTAIN T. S. BALDWIN ON THE "CALIFORNIA ARROW"
Captain Baldwin has built a 100-foot dirigible balloon for the U. S. Government



M. DELAGRANGE IN THE CAR OF "LA VILLE de PARIS"
The French military balloons are all much larger than any built so far in the United States

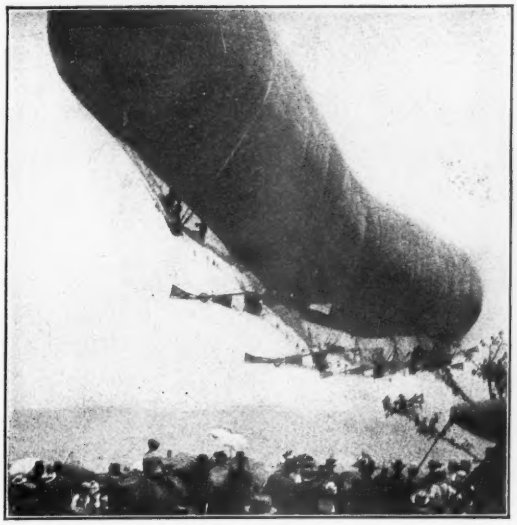
ing them here. France, the first home of aërial navigation, is building more great sharp-nosed balloons and keeping a close watch how the aëroplanes are progressing. Germany has, in her thoroughgoing way, detailed a corps of military engineers who are to start from the beginning and rediscover the laws of air dynamics.

A war automobile with rapid fire gun to shoot upward is already built. England's lumbering balloon, *Nulli Secundus*, sailed into London last summer at a fast clip. Men



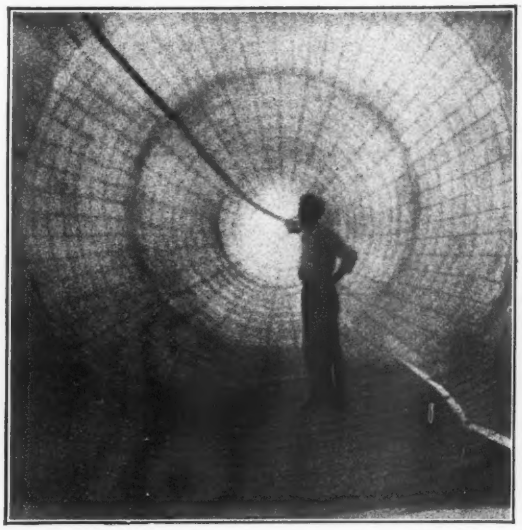
UNDERBODY, TRUSS FRAME, AND PROPELLERS OF A BIG FRENCH MILITARY BALLOON

A DIRIGIBLE BALLOON FLYING OVER THE CAPITOL AT DES MOINES, IOWA



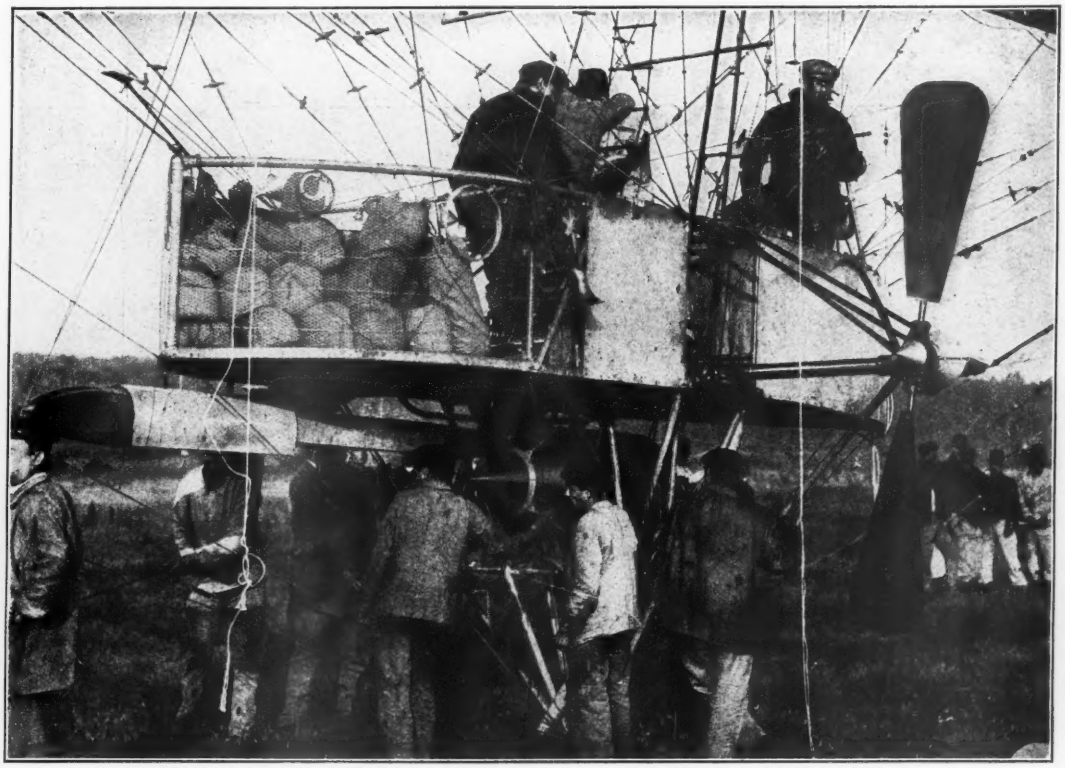
THE ILL-FATED CALIFORNIA MONSTROSITY

This freak dirigible balloon collapsed on its first trip and came down with its crew. Though some were badly hurt no one was killed



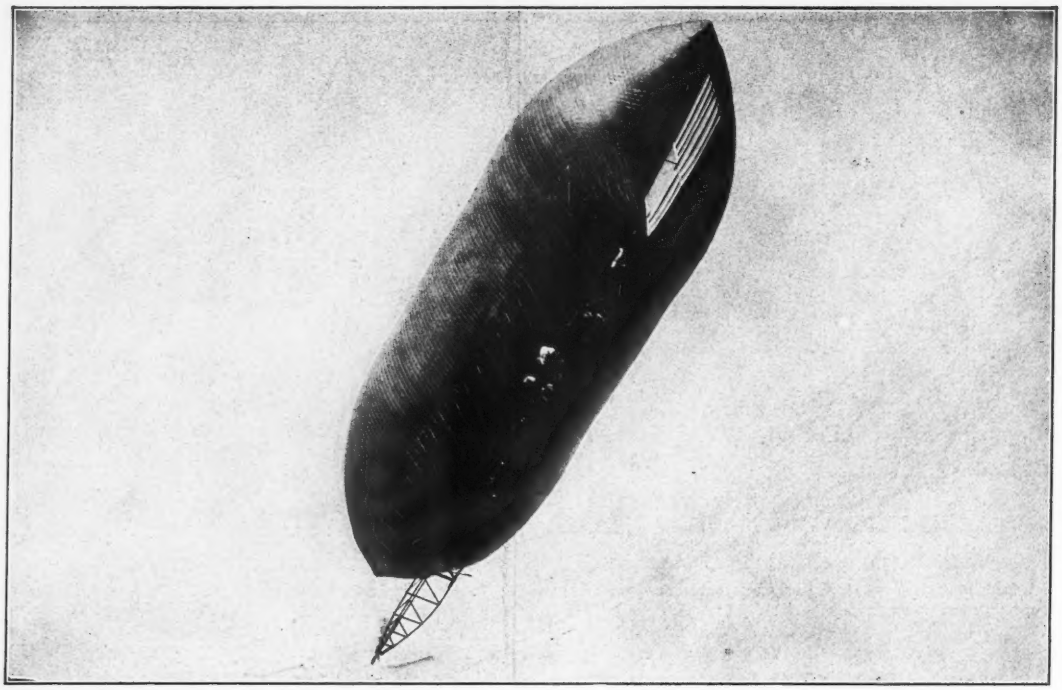
INSIDE A DIRIGIBLE BALLOON

Mr. C. O. Jones inspecting the gas bag of the *Boomerang* at Hammondsport, N. Y. The balloon had been filled with air

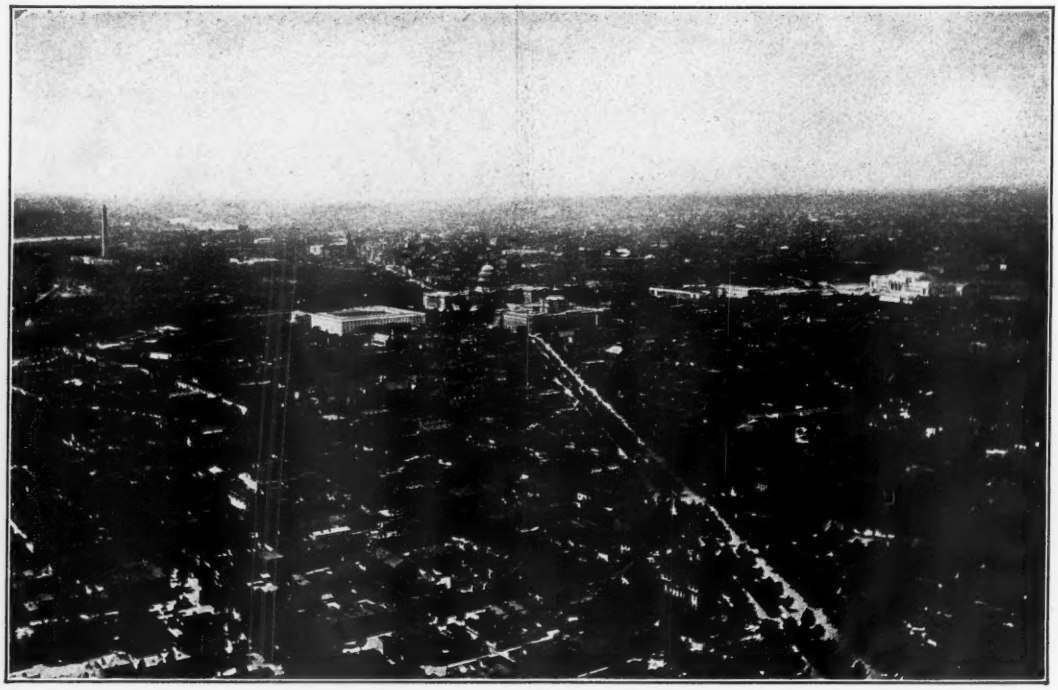


CAR OF THE FRENCH MILITARY BALLOON, "LA REPUBLIQUE"

The successor of the ill-fated "La Patrie" which blew away in a storm last year



CAPTAIN T. S. BALDWIN'S DIRIGIBLE BALLOON IN FLIGHT



THE CITY OF WASHINGTON AS SEEN FROM A BALLOON

with powerful field glasses have from distant hills watched the apparently successful flights, above that secret camp in Scotland, of an aëroplane shaped like a huge butterfly. The English are also said to have found a gasolene motor that uses up the heat of its explosions and thus does not need cooling. Men who study the subject know what these things mean.

And our own Government has not neglected to keep watch of these goings on. We, too, saw the airship coming. Brigadier-General Allen arranged a bureau of aëronautics as a part of the Signal Service. Out at Fort Omaha they have been trying the dirigible balloon. By a friendly arrangement, one young engineer is at Hammondsport working with the Aërial Experiment Association in trying aëroplanes. Another officer has been in Europe taking balloon trips and interesting himself in the things that Zeppelin, Von Parsefal, and the French military engineers are doing.

THE FORTHCOMING GOVERNMENT TEST

But to bring things to a point and to get something done at home our Government called upon American inventors outside the army. It advertised for bids to furnish flying machines, and forty hopeful Americans responded. But Uncle Sam wants machines that will really fly when he wants them to do so, and he has fixed the stiffest kind of a test for them, and then put it in the conditions that every would-be seller must deposit one-tenth of the amount that he asks for, as a forfeit in case his apparatus should not meet this test. Three men have taken him at his word. Captain T. S. Baldwin, a veteran balloonist, who built and sailed the *California Arrow*, contracted to deliver a dirigible balloon for $6,700. The Wrights agreed to sell one of their aëroplanes for $20,000. Mr. A. M. Herring of New York deposited his $2,000 as a guarantee that he would furnish an aëroplane for $20,000. All these flying machines must, under forfeit of the deposits, rise from the parade ground at Fort Myer, Va., carrying two men and gasolene enough for a trip of 125 miles. They must fly over the woods and the Potomac near the fort for a full hour and then return to the parade ground and land without breaking anything. The aëroplanes must make a speed of thirty-six miles an hour or be rejected. They must fly at forty miles an hour to get the full contract price; and there are premiums for the inventors if they exceed this speed. Any aëroplane to meet this test must give proof that it can do as well as Zeppelin's ship. And Congress will be asked to give $1,000,000 for more airships to be used in coast defense.

THE AËROPLANE AS IT NOW IS

It is probable that the casual observer watching the Government aëroplanes in practice flights will find no great difference between them. All of the heavier-than-air flying machines that have remained more than a few seconds in air have grown out of one American gliding kite. It is therefore possible to describe the typical aëroplane of 1908 pretty accurately.

The typical aëroplane is an exceedingly light framework of thin wood strips with varnished silk stretched tight over the top and the bottom, making two long, narrow kites, held nearly level, one over the other. This structure is mounted across a short chassis with bicycle wheels, so that when the vehicle moves the kites come on edgewise, like knife blades, into the air. Upon the stiff frame of the chassis are the seat for passengers, the motors, and the shafts of the propellers which are whirled in the rear. Rudders are either at the front or the rear of the chassis. When the engine is set going and the propellers thrust the aëroplane ahead, it runs on the ground on its wheels until it gathers such speed that the kites, tilted just a little at the front, take the air and rise. Somewhere, front or rear, is a flat broad plane that causes the aëroplane to rise or to dip when hinged at angles. Swinging from side to side in the rear is a rudder or two that the aviator uses to turn his machine in its course. There may be a tail to steady the flight. Either by small hinging planes at the sides, or by making the outer rear corners of the kites flexible so that they bend up or down, up on one side, down on the other, the kite structure can be made to lean when rounding turns, and to come to a level when the machine tips for any reason. All these devices are worked by wires from a wheel, by levers, or by other controlling mechanism at the aviator's seat. The control of the motor is also under his hand.

The Government aëroplanes are finished machines. Every piece of material in them has been shaped after calculation of weight and strength. The small parts are designed so as to be interchangeable. The fabric of

the wings may be rolled up, and the framework, made in sections, taken apart. Hollow steel joints that screw or bolt together make it rigid when assembled again.

The wings of an aëroplane are things of beauty. Narrow, carefully curved, and tapered ribs of hickory are sewed into the silk so that they are covered as if in the border of a hemstitched handkerchief. The fabric also rounds the strip at the front edge. It is stretched tight as a board and then varnished with a guncotton mixture that hardens like a thin film of celluloid. The curving ribs impart a concave shape to the under surfaces of the great wings. Through the translucent silk, the fine ribs show like the veins in a dragonfly's wing. But there is more than beauty in the shapes. The surface curving of an aëroplane wing is all in all. Know the right curve and your machine will fly.

To explain why the shapes of supporting wings in aëroplanes and of the blades of aërial propellers mean so much is to bring up the whole fascinating new science of the dynamics of the air, which made the flying machine possible.

Take a down feather and flip it from the thumb as a boy shoots a marble. If the thumb springs quickly enough the feather will shoot away for four inches, then spring back two. It has followed the movements of a little mass of air that was thrown by the thumb, was stopped by the air in front of it, and sprung back by the air's perfect elasticity under pressure. The wonderful quality of viscosity in the air is shown when a locomotive sends rings of smoke from its stack. The air rolls upon itself, cohering and passing through other air with very little friction. Throw a feather into the whirl of an electric fan. It will at times sail through the blades, go on for a few inches, then whirl back through the centre, zigzag about, and finally strike the straight way onward. The air masses have been in a turmoil as momentum and elasticity and viscosity took part in their direction. Take a card and let it slide obliquely from the hand. It will invariably turn over and over backward. Laws not now understood in their completeness govern this motion through the changing of pressures on different parts of the surface as it strikes the air obliquely at different angles.

The wing of the aëroplane, slightly inclined, strikes the air in its swift onward rush and forces it downward. But the air does not move quickly. It is inert, inclined to stay together in masses and flow evenly, and the oblique wing is also rarifying the air above, so that there is more pressure below than on the upper surface of the wing. There comes a point, as the speed of the aëroplane increases, where the weight of the machine cannot make the air move quickly enough, and where it cannot sink in its flight.

The air, however, does not press up equally on the wing. The front surface of the plane strikes it downward, and it has taken a downward direction when the back surfaces arrive. Here is where the curved surfaces come in. Long experimentation with differently shaped wings, at different speeds and different angles, has taught, to some degree of exactness, what curves should be given to supporting planes. The narrow wings and the propeller blades have been found to be most efficient.

MEN WHO HAVE MADE THE AIRSHIP POSSIBLE

The creation of the airship has been the work of a quarter of a century, of a group of men who for the most part worked far apart and independently but sometimes together, and always, whether they intended it or not, toward the common result. One found out this necessary fact. Another managed to do that essential thing. A third added something from his own genius to the accomplishments of both. A scientist experimented, analysed, classified a mass of detailed facts, and formulated the laws of the dynamics of the air. A clever engineer discovered nearly all the same things and was using them, piecemeal, in his work. The two compared notes and were both helped by an interchange of point of view. A German poet-engineer went out with an experimental pair of wings and learned how to get the *feeling* of what these other men had put down upon paper. He gave his life to the attempt to learn how to fly. The aëroplane inventors gave ideas to the dirigible balloon enthusiasts, and *vice versa*. The airship grew out of the combined efforts of scientists, engineers, practical mechanics, unclassified geniuses.

Renard, French army engineer, built a dirigible in 1884 that only Zeppelin's has improved upon, save in the matter of the gas motor, which has only lately been perfected. Maxim constructed a monster aëroplane that showed others what not to do. The late

Professor Samuel P. Langley, of the Smithsonian Institution, and Mr. A. M. Herring, of New York, both studied the dynamics of the air. Otto Lilienthal, a German, showed how important it is to know something about balancing and actual flight before going ahead to build an aëroplane. Octave Chanute, an American, went on with Lilienthal's work when he was killed, and later put his knowledge at the disposal of Wilbur and Orville Wright, of Dayton, Ohio, who had been building bicycles and later took up the aëroplane. They went on and learned more. Herring went over the whole ground, having become enamored with the idea of the flying machine when a boy. He took an engineering course with the aëroplane in mind, built cycle gas motors to start with, and later founded a paying technical magazine to finance his flying-machine work. There was not any light gas engine, scarcely a good heavy one. Both Herring and the Wrights designed their own. The Wrights out in Ohio and at Kitty Hawk, on the Carolina coast, tried gliding kites, as Lilienthal had done to get the knack of flying. Herring did the same secretly within a few miles of New York.

Thus America gave the world the aëroplane, helped somewhat by Europe.

And while other men were working with imitations of the Renard dirigible balloon (its shape, fin-like wings, and the air-bag inside that is blown full or emptied from the car suggesting at once the anatomy of a fish) Count Zeppelin, a German, built a stiff frame structure around a row of ordinary balloons, gave it the shape of an ocean liner, built underneath this strong hulk a spacious deck and cabin upon which a searchlight and wireless apparatus can be carried, and sailed on a real sky voyage in a veritable airship that is more wonderful to see than any airship ever pictured in imagination. This is the story of the airship up to this time.

WORKING FOR THE PERFECT MACHINE

These men created the flying machine of 1908. Who will make the machine of 1918? The electric dynamo was a crude little machine in 1880. Now Niagara is harnessed, whole cities are lighted, and wireless messages cross the ocean.

In France, where the flying machine originated, a score of able men are at work. The machines that Santos-Dumont, Farman, and Delagrange have flown are all copies of our aëroplane of 1908. But Ferber, Vuia, Bleriot, Voisin, Esnault-Pelterie, the builders of the Gastambide-Mengin machine, de la Vaulx, Bertin, Cornu, and others are trying other types. We have two utterly unlike flying machines to-day. There are possibilities in other types of aëroplanes than the one we have, machines that will have their special uses.

There is the helicoptère, in which a propeller is expected to lift the machine right into air without any necessity of speeding as aëroplanes must. Cornu in France, and Williams and Kimball in America, one an electrical engineer, the other a manufacturer of typewriters, are working on this idea. Great freakish things with flapping wings called ornithoptères, machines that wave themselves through the air as a fish swims, gyroplanes, apparatus with planes moving flat downward and coming up edgewise on belts — all these ideas are in process of trial, and any of them, because of some peculiarity of flight, may be safe in storms or able to hover, or to fly at heights, and may furnish the features of the best aëroplane of 1918. Bleriot leads half a dozen serious workers in trying the monoplane, either like Langley's or shaped like birds and insects. These have so far been unsteady and more than likely to turn somersaults in the air, but they may become the best type when men really know something about flying. And there are combinations of dirigible balloon and aëroplane, and of aëroplane and helicoptère to be tried And who knows what Zeppelin will still do?

THE AËRIAL EXPERIMENT ASSOCIATION

In America we have the Aërial Experiment Association at Hammondsport, N. Y., which has already become as famous for airships as it used to be for native wines, and it is a centre for the exchange of aëronautical ideas. Dr. Alexander Graham Bell, inventor of the telephone, has built up a honeycomb structure of tetrahedral cells which he believes will be the supporting apparatus of an aëroplane that will lift when going slowly and be especially stable in gusts of wind. This would make it a slow aëroplane — a machine that could be put to good purpose. He associated with himself two young Canadian engineers, Mr. F. W. Baldwin and Mr. J. H. D. McCurdy. Then he negotiated with Mr. G. H. Curtiss, of Hammondsport, who had already made a name for himself as the builder of light

gasolene motors and had himself, upon one of his motorcycles, made the world's speed record at Ormond Beach, Florida. Mr. Curtiss began for Dr. Bell the construction of an extremely light and powerful motor to attach to the new aëroplane. Dr. Bell decided to spend the winter at Hammondsport instead of at his laboratory in Nova Scotia. Experiments were begun with the apparatus. The United States Government arranged to have Lieutenant T. E. Selfridge attend the tests and coöperate. Thus five experts were associated in airship work.

Mrs. Bell became interested in the work and suggested that they form an association to experiment with all good new ideas that came to their notice. She offered to furnish the funds to carry on the work. This was the beginning of the activity at Hammondsport which has attracted much attention. Three experimental aëroplanes have been built and flown. The *June Bug* whose first trial flight was described at the beginning of this article, carried Mr. Curtiss a mile on July 4th, in the presence of a number of experts, including Mr. A. M. Herring and Mr. Charles M. Manly. The amateur aviator had learned enough by the time of this flight to make a complete circle with his machine, but on the second attempt to turn he made the apparatus lean too far and so slid down the wind, sidewise. This flight was considered significant, showing what can be done both in designing aëroplanes and in rapidly learning how to fly them.

The well-equipped shop for flying-machine construction, with workmen used to the peculiar tasks, has attracted to Hammondsport many American inventors. Captain T. S. Baldwin built his dirigible balloon for the Government there. The Williams helicoptère was there built and tried. The town has become a centre for the exchange of aëronautical ideas. Young men from the universities who are doing original work in aërial dynamics are already making their appearance there to talk with the experimenters and to have small experimental apparatus made.

THE AËRO CLUBS

The revival all over the world of ballooning as a sport has resulted in the springing up everywhere of aëronautical clubs and of the formation of the International Aëronautic Federation. International balloon races, in which the old-fashioned aërostats and the new dirigible balloons participate, and even aëroplane meets, are now of frequent occurrence. The Aëro Club of France, with its thousand members, is the big brother of associations in every large European city. In America there are three strong clubs and smaller ones that are just organizing. A. C. Triaca, a pilot of the French club, has established an aëronautical school in New York.

In Paris, balloons rise at all times from the aërostatic park where gas and other necessities of ascent are provided. The Aëro Club of America, which is at once the parent club which represents all America in the international federation and the New York association, is planning to establish an aëronautical park inland, probably on the Hudson River, where gas for ascents may be obtained at about fifteen dollars a trip, instead of nearly sixty, the cost of making an ascent nowadays. In England, women are as enthusiastic about the sport as men, although the dangers of ballooning over an island are well recognized.

Members of the European clubs have offered an aggregate of $150,000 in prizes for comparatively easy first performances of aëroplanes. The enthusiasm of some of the Paris aëronauts for everything that has to do with flying is shown by the care they took with "Coco" a pet vulture in a Paris zoo which had never learned to fly until they taught it how.

An elaborate aëronautical map of Europe is being made by coöperative effort. While ballooning attracts most of the members of these clubs as a sport, they give hearty support to the serious-minded scientists who are members and who are engaged in a systematic study of the far heights of the atmosphere and of weather science. Following the example of the wealthy young Brazilian, Santos-Dumont, whose greatest work for aëronautics has been to make it popular by his exploits, they are encouraging in every way the improvement of dirigible balloons and aëroplanes. The first great development of the aëroplane will be its use in sport.

THE TREACHERIES OF THE ATMOSPHERE

Learning to fly is not an easy matter. As for dirigible balloons like that of Zeppelin, those who attempt them will do well first to seek the guidance of some sky pilot. But aviation in quiet weather has only the least spice of danger for the man or the woman of

good physique, nerve, and judgment. And there will be pilots.

We who live on the ground have no idea of conditions just above the housetops. We take little notice of gusts, having our feet well planted upon firm earth. But above us the great aërial ocean is in a constant swirl. Near earth it is like a choppy sea; above, the winds move ordinarily in grand sweeps. In storms it is like a vast churn, big air-masses booming about, colliding, and glancing off, or flowing around each other in swirls like the patterns of an old-fashioned shawl. Watch the convolutions of cloud-masses, even on fair days.

Mr. A. M. Herring, flying fifty feet above the surface, can feel, he says, the presence of every tree, large rock, stone fence, and stream that he passes above. The wind, flowing along, beats against these obstacles and bounds upward, as a punching bag bounds when struck. It strikes the underside of the aëroplane with a perceptible blow. Even at great heights the unevenness of the earth's surface is felt in gently rounding upward swells of the air, over which the machine rides.

But side gusts and sudden vertical swirls are what the flying machine dreads most. They may capsize it or tip it so far that it glides edgewise to earth. One of the well-known European aviators is said to return from every trip tired out by the physical exertion of keeping his machine steady. The American machines have been improved to the point where this is not so trying. The aviator upon the Wright machine, holding compound levers in his hands, becomes so used to balancing, the motions being those that he would naturally take, that flying becomes a second nature to him, just as balancing upon a bicycle is done unconsciously. Mr. Herring has automatic devices upon his aëroplane by which the machine tips so slowly that it rights itself directly after, or gives the aviator plenty of time to act. Wilbur Wright says that the aëroplane's wing is an improvement upon that of the bird. And the bird finds no trouble in flying in high winds and gusts. Mr. Herring declares that the aëroplane can fly in the rain.

FUTURE USES OF DIFFERENT MACHINES

And now what is to come in the future of aërial navigation? It will first be developed for pure sport, just as the camera and the automobile were. But who at first thought that the little box for taking pretty pictures would become indispensable? Bold spirits will rise in the aëroplane till they are as much at home in the air as birds. With this familiarity will come intimate knowledge of the atmosphere above us that will not only mean bigger and more elaborate airships, maybe adaptable to commerce, but the development of weather science to the point of exactness.

In war, the dirigible, floating high, may make distant observations. The aëroplane, skimming the land at night just above the enemy's works, will scout. A rifle shot through its silken wing means nothing. Even a shattered rib would not count for much. Darting with the black flash of the night-flying bat, no sharpshooter could take aim close enough to find its engines except by chance. A steel plate underneath the aviators will protect them. Only shrapnel from a broad muzzled gun could bring one down. When the great dirigible balloons of an enemy's air-fleet should come across the border — and the airship needs seek no single port of entry — the aëroplane might soar into the air and attack it as the torpedo boat may attack fleets. Dodging by, in spite of the fire of a rapid fire gun from a Zeppelin deck, it may squirt any one of a dozen acids to eat through the gas-bag and set it aflame, or it may fire an aërial torpedo. It is said for the Wright machine, and it is probably true of others, that it can leave and return to the upper deck of a battleship at sea with safety. Thus may it enter naval warfare.

EXPECTATIONS OF GREAT SPEED

Mr. A. M. Herring estimates that an aëroplane carrying two men, fuel, and instruments, can eventually remain thirty hours and travel 2,500 miles without a landing, and that speeds as high as 125 miles an hour may be conservatively looked for. Count Zeppelin states that his ship can float forty hours and go 1,200 miles with engines constantly running. This makes the trip to the pole a possibility, although there are climatic conditions that Count Zeppelin may not have taken into consideration. But an aëroplane, carried to the northern limit of navigation, and not so sensitive to weather, may make a dash to the pole in a day. At any rate, there may not much longer be any excuse for white spaces on the map of the earth.

But the most alluring probabilities of aërial

navigation exist by virtue of the atmospheric swirls already described as being the chief annoyance of would-be aëronauts while they are fledglings. The great frigate bird, true to its name, sails for hours across the heights of the air with never a quiver of his wing. Many have been the attempts to explain this wonderful soaring flight. The albatross and the vulture also do it. It seems to be the family secret of the largest and heaviest birds. The most conservative explanation of this flight is that birds have knowledge of the air-swirls and that they seek currents that bear steadily upward and ride upon them. That the winds of the altitudes are sometimes steady onward rolls of air is known. That the eastward steady wind that blows from the Mississippi to the coast bounds upward thousands of feet when it encounters the west slopes of the Alleghanies is a known fact. Currents of warm air from the heated earth break through overlying strata here and there and flow upward like smoke through a chimney.

Dr. Bell, the Wrights, Mr. Herring, Mr. Hargraves, and many other enthusiastic but careful observers believe that with expertness in machine flying will come such a knowledge of these upward currents as will enable the aviator to stop his propellers and to soar like the frigate bird at great heights.

Aërial navigation is now in its infancy. Who can say that we may not have aërial freighters? The corporations are already seeking the control of aërial navigation. A company has been formed in France to supply every kind of flying machine and things that appertain thereto. Clothiers say that people are already asking what kind of clothing is proper for balloon trips. And it has been reported that a German company will try to run a regular line of Zeppelin airships across the English Channel.

THE LAST OF THE CATTLE KINGS

MR. HENRY MILLER, PASTORAL DICTATOR AT EIGHTY-THREE

BY

FRENCH STROTHER

ASK any rancher on the Pacific Coast if he knows who Henry Miller is. He will tell you that Mr. Miller is the cattle king, and that he owns more land than any rancher in the West.

"How much?"

"Millions of acres."

"How could one man get that much land?"

And then the rancher will wink.

"From the Government, most of it."

And he will tell you a story — every rancher in the West knows a story about Mr. Miller.

Most of this land is used as cattle and sheep ranges, but about 30 per cent. of it is cultivated — to grain or hay or something else that will fatten livestock. Cattle raising is Mr. Miller's business; he has never invested nor speculated in stocks, nor yielded to the almost universal Western fever for mining, nor engaged in any mercantile business, except to run a few country stores near his ranches for the convenience of his men. Some of his lands are in the richest part of the already developed oilfields of Coalinga, Cal., but he refuses to spend a cent to dig wells for oil.

"Maybe it is there," he says, "but I know the cattle business, and I shall stick to it." He has made $20,000,000 in it, so perhaps he is right.

Mr. Miller's success in cattle raising is his own secret. He buys cattle and sheep and hogs, lean or fat, runs them on his own ranges, shipping them from ranch to ranch to utilize all the grass and stubble, puts his own grain into them, and when they go to market they always make a profit. He buys in tremendous quantities. He once ordered his head sheep-foreman to buy all the sheep for sale in Nevada at any reasonable price. The foreman bought all but 15,000 head, which were held at $5 apiece, which he thought too high. He reported to Mr. Miller in Southern California. Without a pause Mr. Miller said: "Take the next train to Nevada and buy them."

That was a $75,000 purchase.

He does not bargain. He will look at a herd of cattle or a likely band of sheep, ask the number, and offer a lump sum for the lot without further examination, even if there are thousands of head. And he will not alter the offer. The seller can take his check or let Mr. Miller go.

His ranches are models of neatness and order and thrifty management. Every one of them is better managed than the neighboring ranches. Every one of them is under Mr. Miller's direct, personal supervision, constantly. For forty years he has been traveling, from ranch to ranch, inspecting his property, directing the planting of crops and the movements of his herds, buying and selling. He travels by train where he can, but usually he drives a fast team, traveling fifty or sixty miles a day. He is eighty-three years old, and he still follows this custom. In April he was seen at one of his ranches, a hundred miles from his home, in an open buggy in a driving rain, directing the spring plowing of a great field.

He never rests — he hardly sleeps, of late years. Somebody asked him recently why he did not hire a manager to superintend his estate, and stop his rush of work.

"Whom could I hire?" was the sufficient answer.

He is still adding to it. He rarely sells land: he buys more. He has resisted the prevailing tendency to subdivide the great estate into colonies for small farmers. He had an ambition, earlier in life, to own the whole state of California. He once said, half in earnest, that he owned half of the state, and that his son could own the other half if he would. But the father has outlived the son and increases his holdings by the sheer momentum of his tremendous interests.

Mr. Miller was born ten years after Andrew Jackson won the battle of New Orleans. He came to America when he was sixteen and drifted westward from New York, reaching San Francisco when he was twenty-one. He rose from the position of butcher's boy to be a partner in a small retail butcher business with the late Charles W. Lux. The firm name of Miller & Lux is used to-day, though the business was incorporated long ago, Mr. Miller retaining considerably more than a controlling interest in it. The partners branched out into the cattle business, and that led them into acquiring land for grazing. Mr. Miller has dominated it from the first.

The Federal land laws were loosely construed in those days, and Miller & Lux's cowboys entered homesteads from the vast public domain, and made them over to the firm when they had perfected title. Other lands were bought and incorporated into the ranches, until it became a proverb in California that the firm could drive its cattle from Mexico to San Francisco and camp them nightly on its own land. This is an exaggeration, but a conservative estimate, made for this article by a director of the estate, credits it with 600,000 acres in California alone. Mr. Miller also acquired lands in Nevada and Oregon, though he says that his one great mistake was leaving California — it prevented the realization of his dream of owning that state.

He has organized the business thoroughly. Each ranch is managed by a foreman, who has a sub-foreman for the farming, another for the cattle, and another for the sheep. The foreman's wife is usually responsible for the housekeeping and cooking for the men. Each group of ranches is managed, in turn, by a general manager, and there is a superintendent of all the sheep interests of the estate. But every ranch is under the constant personal supervision of Mr. Miller himself. He times his visits to the ranches so that he will not be expected. He goes first to the bed-room that is set apart in every ranch house for his exclusive use. If the room is spotlessly clean and in perfect order, he is pleased: if not, he makes trouble. Then he goes to the kitchen. He inspects the pantry for dirt, the food for bad service, the garbage buckets for wastefulness. He inspects the ranch buildings. Everything must be in perfect order. A piece of baling wire or an end of rope left to lie on the ground he regards as an evidence of unthrift; a dirty yard is evidence of negligence; a broken fence or a leaky roof is proof of bad management, and he gives way to a terrific temper when he sees it. He is liberal in many ways, but he considers wastefulness a crime.

On a visit to one ranch he noticed a hen with a fine brood of chicks. He called a companion's attention to them, and was as pleased with them as if they were golden eggs. A month later he visited the ranch again. He asked the stable-man what had become of the chicks.

"Rats ate 'em," was the response.

"Rats ate 'em! Rats, eh? Rats, sign of decay! Where's that damned tramp of mine?"

The "tramp" was the foreman. He was called and got a tongue-lashing that was the premonition of his discharge a few months later for incompetency.

Despite his habit of close supervision, he allows great freedom of action to his most trusted higher employees. One of his chief lieutenants acted for years under instructions to "buy anything you see that will make money — cattle or sheep or land." He drew checks for hundreds of thousand of dollars, in all, against Mr. Miller's account for things that Mr. Miller had not previously passed upon.

"I have never seen one of those checks again, so I suppose it was all right," he says.

This man bought 200,000 sheep for Mr. Miller in one year — from June to June. Sometimes he would see his chief in Oregon, and discuss business with him, sometimes in Nevada or California, sometimes not at all for months. Once they met in Bakersfield, Cal., and as they parted Mr. Miller called him back.

"By the way, if you see any good land for sale, buy it. I have a little spare money I want to invest."

"How much?"

"About three hundred thousand dollars — a little more than that."

He does not demand great speed in doing work; he prefers thoroughness that is pretty near perfection. But his employees must be workers. A vaquero asked him for a job. Mr. Miller said yes, he had one vacant.

"What 's in it?" said the cowboy.

"Thirty dollars, thirty days, and thirty nights," was the response.

He is "a good man to work for," however. He is generous to people in distress; he feeds and lodges his men well, he rewards faithful service by looking out for those who have passed the age of usefulness in his employ.

He is often generous to people who have no claims upon him. The cook at every ranch has orders to feed every person who stops there hungry — and to ask no questions. Anybody who reaches one of his ranches at night may stable and feed his horses, lodge in the ranch house, and eat with the employees, without charge and without question. A man who needs meat may kill a sheep or a calf from Mr. Miller's herds, provided he uses the meat himself and does not sell it. Of course, these things are more than generosity; they are a protection against the spite of tramps and the depredations of thieves; but they indicate a pretty broad-minded man, too.

He has to make concessions to necessity in other ways; he is known by everybody and he has to travel thousands of miles alone through a wild country. He is frequently held up and robbed in consequence; but he never attempts resistance nor reports such incidents to the officers of the law. If he did, the next man who robbed him would probably kill him, so he usually carries only a little money and charges the robberies to profit and loss.

Once he was robbed in Pacheco Pass by a Mexican, who took $200 from him. Mr. Miller knew the man, and reminded him that he was a long way from home and asked the highwayman to lend him enough for expenses. The Mexican handed back a $20 goldpiece, and disappeared. Several years later Mr. Miller saw him on the street in Hanford and offered him $20.

"I borrowed this from you once," he said.

"I never saw you before," said the Mexican.

"Oh yes you did. I borrowed $20 from you in Pacheco Pass, three years ago."

And he made him take it.

But he is a fighter, too. He has "lawed" more, as the old-timers say, than any man on the coast. He employs an attorney in nearly every town near his ranches, and he will fight any legal dispute to the last resort.

Water is indispensable in this semi-arid country. A large share of Mr. Miller's lands and cattle depend upon the San Joaquin River, in California, for their water-supply. He owns much of the land that borders on the river, thus securing "riparian rights," and he took out, in early days, a great many patents from the government to "allotments" of so many miner's inches apiece for diversions of the water from the stream, so that to-day he practically owns the entire flow of one of the largest two rivers in the state. He has had to fight for it most of his life — with armed bands of cowboys in many instances, and in the courts all the time — but he has beaten his last opponent, and the Supreme Court has recently affirmed his ownership.

But the fiercest of his fighting is past. The titles to his lands seem to be secure; he has reduced his business to a smoothly working organization, with a central office in San Francisco, in charge of his son-in-law; his

time is filled with the labor of keeping his affairs in order, and with brief visits to his home in Gilroy, Cal.; he has resigned his ambition to own the whole state, and has exchanged it for another. He is trying to create a public sentiment for a new county to include most of his holdings in the "West Side" of the San Joaquin Valley, to be called Miller County. He will probably succeed in this ambition for perpetuating his name.

HOW THE STANDARD OIL COMPANY DOES ITS BUSINESS

II

THE MEN WHO MAKE UP THE MANAGEMENT — HOW THE ORGANIZATION WAS FORMED — A "CONQUEST OF PERSUASION" — THE PERFECTION OF THE ADMINISTRATIVE MACHINERY — WORKING AS A UNIT FOR EFFICIENCY AND FOR THE PREVENTION OF WASTE — WHAT "ECONOMY" MEANS AT 26 BROADWAY — THE *ESPRIT DE CORPS* OF THE MEN, SMALL AND GREAT — FEW DIE AND NONE RESIGN

BY

C. M. KEYS

(*The second article on the Standard Oil Company in a series on Great Corporations*)

TURNING from the export business of the Standard Oil Company to its administrative side, I went to see Mr. John D. Archbold, vice-president and a director of the organization, and asked him for his explanation of the genius of the company. The gist of what he said is quoted briefly in these paragraphs:

"An analysis of the Standard Oil Company must begin with Mr. John D. Rockefeller; for he conceived it, created it, and was its vital force for many years. His genius underlies its methods still, and will continue to do so while the men who grew rich and strong with him continue at its head. It is not the most skilful mechanic, the most skilful executive, the most skilful merchant, the most skilful financier who makes most money and achieves most fame. It is the man who, by his power of control, can so draw together the best men in mechanics, in executive work, in buying and selling, in finance, that they work as a unit.

"Mr. Rockefeller has been that man. That is the secret of the Standard Oil Company; and it is also the secret of Mr. Rockefeller himself. His control over men is a constant marvel, both to the outside critic and to the men in the company itself. The present Standard Oil Company has been evolved slowly. It began with a small group of men drawn together by the magnetism and the power of the Rockefeller firm in Cleveland. These men have worked as a unit for forty years, a period of national growth, of ever-widening industrial interests, of tendencies that have given to the leaders of this company all possible opportunity to break away, if they so desired, and find in the new order of things all the scope for their activities that they might wish.

"Yet these men whom Mr. Rockefeller gathered together from so many fields to administer his companies have stood solid through all the changes and vicissitudes of this great period. From time to time, tales go abroad of bickerings and internecine warfare within great corporations; but in the Standard Oil Company there is none of it. Of course, men have come, and men have gone; but not one of the men to whom the Rockefeller interest has entrusted great power has ever proved traitor. Death alone has broken the circle, and in almost every case where one of the inner circle has been taken away his sons or his heirs have remained bound in the strongest and most faithful interest to the ends of this corporation.

"It is little wonder that this company has grown powerful and has gone far in the markets

of the world. Given the oilfields, the world-wide markets, and the genius of Mr. Rockefeller, and some such result was inevitable. It was simply the solution of a huge commercial problem, the bringing together of the producer in the scattered fields and the consumer in the scattered markets. In its inception the Standard Oil Company, with its concentrated capital and its concentrated brains, was the most perfect machine that Mr. Rockefeller and his partners could conceive for the solution of this difficult problem."

THE CUTTING OUT OF WASTE

The elimination of waste is the heart of the Standard Oil Company — this concentration of the brains and of the power of men. These men, supreme in their respective fields as mechanics, executive administrators, merchants, and financiers, synthesize their genius and devote themselves to the business method worked out, completed, and perfected through forty years of hard experience.

That method may be put in a phrase. It is the elimination of waste, in material, in men, and in the labor of men. These three mean money. The method of the Standard Oil Company is the saving of money. In the present industry almost the same things are done as were done in the industry forty years ago — crude oil is bought or produced, refined, and sold in the markets of the world. The difference is that the old régime was reckless and extravagant, while the new is careful and scientific.

It is not a tyranny of niggardliness. It is very far removed from parsimony. The wages paid to employees are probably the highest wages paid to industrial employees anywhere in the world. The equipment is the best that can be bought or made. The horses in the delivery service, for instance, are bought young and used for three or four years only, except in rare cases. The stables are rigorously inspected and the feed is carefully watched and checked. The harness, the wagons, the tanks must be always in perfect condition.

This seems as true of every other department as it is of this. The men, from the executive heads of departments to the cleaner of the refinery yard, receive good salaries for their labor. One may look a long time before he will find a Standard Oil Company employee who has lost wages through sickness; but one may find many whose doctors' bills have been paid through some serious illness. One may go and visit old men living to-day on Standard Oil Company pensions; for if a man has worked for this company for twenty years he may retire at sixty, if he please, and draw half-pay for five years and quarter-pay until death. In these matters, the rule of the company seems to be based not on the law of the land so much as on the law of common humanity.

This is not parsimony. To get efficiency, the company is at times liberal, and even lavish, in its expenditure. Where the strictest economy works to the same end, no miser in the world is more careful. It is not true that an unlucky clerk who wastes a dollar's worth of pins or pencils is summarily dismissed. It is true that the little drops of solder that fall from the cans in the factories are gathered up and used again. It is true also that the sweepings of the yards are sifted before they are thrown away. I found no Standard Oil Company man ashamed to admit that the little boxes in which the tin comes from England are sold to florists in the cities, or used as fuel for the fires. I found them proud of these details. They are more prone to boast about a thousand dollars saved in some nook or corner of this enterprise than about a fifty-thousand dollar order for oil won in the open markets of the world.

ELIMINATING MIDDLEMEN

The whole system is a reaction from the early days of the oil industry. When the Rockefeller company was first brought together in Cleveland in 1865, the oil business was conducted with an utter recklessness of costs. A hundred middlemen fed fat upon it. One made a fortune manufacturing glue for the barrels; another grew rich devising acids for the refining; another made barrels; another sold them to the refiners at retail; many bought for a song the residuum of the stills and worked it over at great profit into merchantable products; and an army of money-lenders grew purse-proud on the revenues gained from lending money at ruinous rates to the men who refined and sold oil. Few had working capital of their own, and most were willing to pay any rates in order to get money in the hour of need.

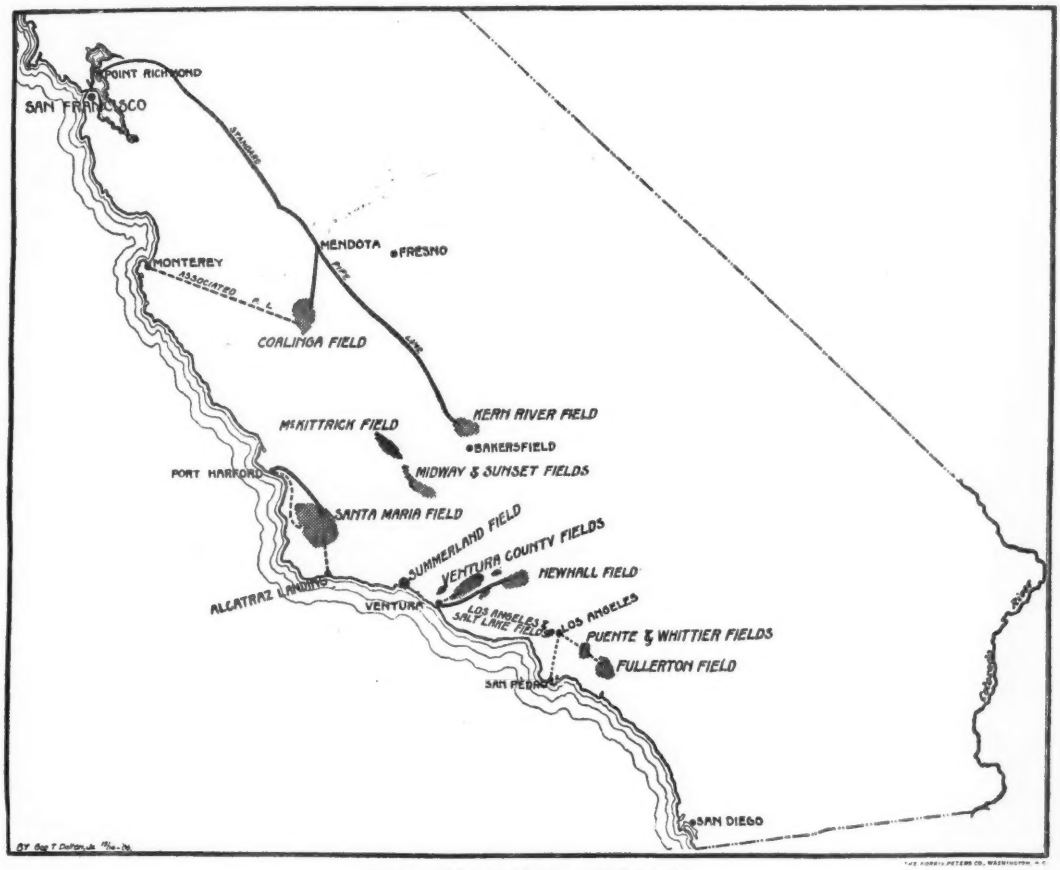
As the head of a private firm, Mr. Rockefeller worked for five years under these circum-

stances. He wasted less than most, even at the outset. Mr. Andrews, his first partner in the oil business, spent his time devising methods to save money in refining He began to use the residuum, making it over by himself, and thus eliminating one middleman. He bought less coal for his fires, burning the coke that lies in the bottom of the exhausted still. The firm began to make barrels, to manufacture glue, acids, boxes, and a dozen other things that no other refiner then deemed worth while.

The money problem pressed hard on their early struggle for independence. To solve it, the first Standard Oil Company was formed, on January 10, 1870. It brought together with a capital of $1,000,000 two or three closely related firms in Cleveland. That seemed at first sufficient to safeguard the little industry against the danger of borrowing at ruinous rates in times of stress.

THE BEGINNING OF THE COMPANY

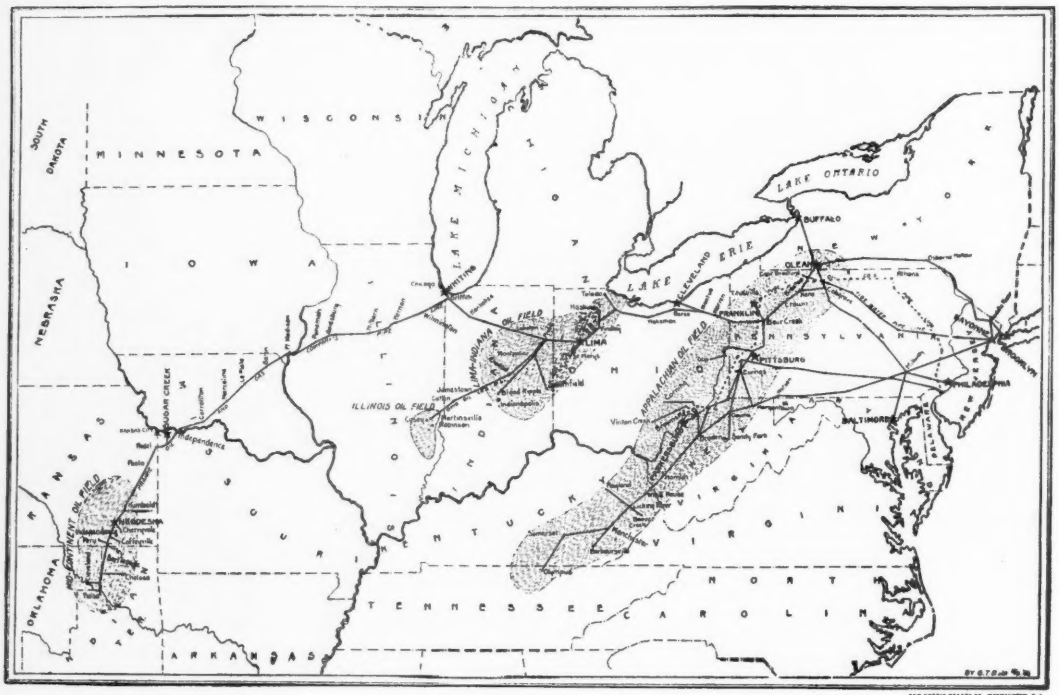
More important, that consolidation brought together the nucleus of the army that was destined to conquer the oil-world. The strong men in it were Mr. John D. Rockefeller, Mr. William Rockefeller, and Mr. H. M. Flagler. They were pretty well known in the oil regions even then as strong, aggressive, skilful refiners and marketers of oil. No one, of course, dreamed that they would ever dominate the oil business, as they soon did, but it was known that they had to be reckoned with. They were shrewd and quick. Anything they did, they did suddenly, without any brass-band accompaniment. They talked little. If anyone ever got the better



THE CALIFORNIA PIPE-LINE

The main line from the Kern River fields to Point Richmond carries the bulk of the California oil. A large proportion of the oil goes to the Orient, in bulk and in cases

of them, whether it was some competitor buying crude oil at the wells, or some refiner bidding for rebates out of Cleveland, he always knew that he could not hold his advantage very long. Rebates in those days were not only legal but were also usual. Every trader and manufacturer expected them in proportion to the tonnage he gave the railroads, and in most cases he got them, when his shipments were of sufficient importance to make it worth the while of the railroad to grant them.



PIPE-LINE, REFINERIES, AND OILFIELDS

The solid black lines indicate the main pipe-lines of the Standard Oil and its affiliated companies. The broken line, running from Brown's Mill, O., to Marcus Hook, is the Pure Oil Company pipe, independent. Stars indicate the Standard refineries, shaded portions the oilfields. The map is taken from the Government report, signed by Mr. Herbert Knox Smith

MR. ROCKEFELLER AND MR. FLAGLER

His comrades told me that everyone in the oil trade liked Mr. William Rockefeller. He established the Standard selling agency on the docks of New York, and sold his oil in hot but good-natured rivalry with the Pratts and other big firms of New York. He was young, pleasant to meet, quick at a bargain. He always made friends even in the ranks of his hottest competitors. He was good-natured, but not at all soft. In the markets he often did as all other oil men did, namely, gave away his oil below cost; but he figured better than most how long it would take money to come back in the form of wider markets, more friends, or collateral profits of some sort. To-day he is busy with many interests, and cannot be considered one of the active directors of the Standard Oil Company. He has not actually laid down the work, like his brother, but his financial work is now advisory rather than executive.

Mr. Flagler seemed to be very prominent in every function of the company in the early days. He never studied law, but Mr. Archbold told me that he is one of the best natural lawyers in business. In those days, when big and important contracts had to be made offhand, as it were, he was the right man to make them. He could make out a contract, or paper of any sort, as skilfully as though he had been trained in the law. As a merchant, he could buy and sell closer than nine out of ten of the specialists in that branch of

the business. He knew refining as well as any of the Cleveland people. He was almost as careful as Mr. John D. Rockefeller himself when it came to the spending of money, and his courage never seemed to fail in a moment of stress or crisis. The risks of business were no new thing to him even before he joined the Rockefeller forces in Cleveland. He was born in Canandaigua, N. Y., in 1830, and served first as a clerk in a country store. His first big independent venture was in Michigan, where he joined the rush for salt. He came to the oil business with hard experience and with a little money, which went a long distance in those days, just after the war.

THE BASIC PRINCIPLE

These were men born to business success. It may have been accident that brought them together in the oil business; but it certainly was no accident that they succeeded where other men had failed. I have studied, so far as I could, the whole history of these men. One finds, from their small beginning as refiners of oil in Cleveland, through the long years of trouble, hot competition, business intrigue, railroad plots, and legal complications, even to the present time, one cardinal basic principle upon which they seem to have united, and upon which, undoubtedly, they built the structure of their success.

That principle was, and is to-day, the cutting out of waste. The Standard Oil and all the minor companies in which these men and their followers have been interested proceed upon the basic principle that every weak link in the chain must be taken out and a stronger put in its place. I do not propose, in this article, to trace the history of these men, or of the Standard Oil. That task has been done, more or less justly, by individual writers and by Government commissioners.

The method of the Rockefellers and their partners in building up their great industry can, perhaps, be better understood without much history. For the method undoubtedly was a purely personal method. Once other interests attempted to form a combination in the petroleum trade, based upon the right of conquest, the right of might, if the phrase is permissible. That plan, the South Improvement Company plan, fell through before it even came to accomplishment. Every director of the Standard to whom I talked about it condemned this plan in unequivocal language.

The Rockefeller system seems to have been utterly different. Many of the men who most hotly opposed the South Improvement Company came to do business in more or less intimate relationship with the Standard Oil. Mr. John D. Archbold, in later years a strong believer in the Standard method, and now a vice-president of the company, was one of the most bitter opponents of the South Improvement Company plan.

WHERE LEADERS CAME FROM

The men who have been partners with the Rockefellers and Mr. Flagler in recent years, if we may use that term to define the business relationship that has held them together, were nearly all oil-men before they came into friendly relationship with the Standard and its people. Mr. Charles Lockhart, for instance, who died in Pittsburg four years ago leaving a large fortune, was a refiner of Appalachian oil years before Mr. Rockefeller entered the trade. The Wardens, of Philadelphia, were an old and well established oil firm, perhaps the strongest in that city. Mr. Charles Pratt, of New York, was a veteran of the trade in 1874, when his interests drew him to the Cleveland refiners. His plant was not the largest in New York harbor, but it was the acme of efficiency, and able to hold its own in all the markets of the world.

The oil business of that day was not nearly as great as it is to-day; but the principle was the same. Men took oil from the wells, carried it to convenient refining points, then marketed the products at home and abroad. Men came to be known as the leaders in definite branches; one as the most skilful exporter; one as extremely skilful in making by-products; another as the owner of the plant that made barrels, etc., at the lowest price. These men achieved success, and became powerful individual factors in the trade.

These men, Lockhart, Warden, Pratt, Rogers, Frew, and a dozen other industrial leaders of their day, in the course of time came to recognize the same truth that the Rockefellers had recognized earlier, and upon which they had lifted themselves from the level of petty oil traders in 1865 to the height of business prosperity in 1870. In other words, they saw that waste had to be cut out before the oil trade could become a sound, staple industry and take its proper place in the nation's trade roster.

By far the greatest factor of waste was, and is, beyond any reasonable doubt, lack of co-operation. So long as the bigger plants in the trade stood in the position of enemies, so long that steady waste had to continue. A dozen selling agencies did the work that one might have done. A hundred little refineries, dotted all over the oil regions, duplicated one another's plant, struggled against the ever-increasing burden of manufacturing cost and selling cost, wasted each one its thousands of dollars a year to the profit of no man save the middleman and the business parasite. Even the biggest plants in the country, grown strong as the prosperous years piled up, were weak to meet possible lean years. So far as my questions have been able to recall the days prior to 1875, there was no man in the oil-trade who slept soundly at night. The industry was a shifting, treacherous, speculative industry. in which men grew rich slowly, then poor over night.

The very strongest men in the trade felt the hazard of their enterprise the most keenly. They analyzed it, as wise men will. They recognized that lack of proper business organization alone prevented it from gaining solidity, from putting off as it were, its gambling character. When a man came and put in words the thoughts that they themselves had always entertained concerning the oil-trade, and pointed out the way to better things, there was not one of them who was not keen to follow.

The group of oil men that gathered about Mr. John D. Rockefeller in the ten years from 1870 to 1880 gathered to that centre, then, because they recognized that he was the man with the idea that was to revolutionize the petroleum industry. He stood for the cutting out of the very weaknesses that they themselves had recognized from the start, but tolerated because they thought they must. The Standard Oil, even though in the first half of the decade it was but a small company, struggling for trade and for money to carry on that trade, had impressed all men who saw it at work as an efficient, powerful, forceful commercial engine. It had refined and sold oil at a profit from the very beginning, even in the face of open war in the oil regions. It had a way of winning in commerce that commanded respect.

Practically, the present board of directors of the Standard Oil Company of New Jersey is descended from these pioneers of the oil business who came to be business associates of the Standard Oil and its chief in the decade that ended in 1880.

There are no "dummy directors" on this board of the Standard Oil Company of New Jersey. It is not worth while for any man to go to the meetings unless he wants to talk business and is prepared to take a part in the oil business. There is no perfunctory business. It is "oil," and nothing else. One hears from time to time that the dividends are taken to represent "market attitude." These dividends are declared on the fifteenth of February, May, August, and November. According to Mr. Archbold, they represent nothing in the world but the amount of money properly available for dividends. "Market attitude" is never discussed at a meeting, except the market attitude in oil. That is a frequent topic of discussion, and sometimes the discussion is warm.

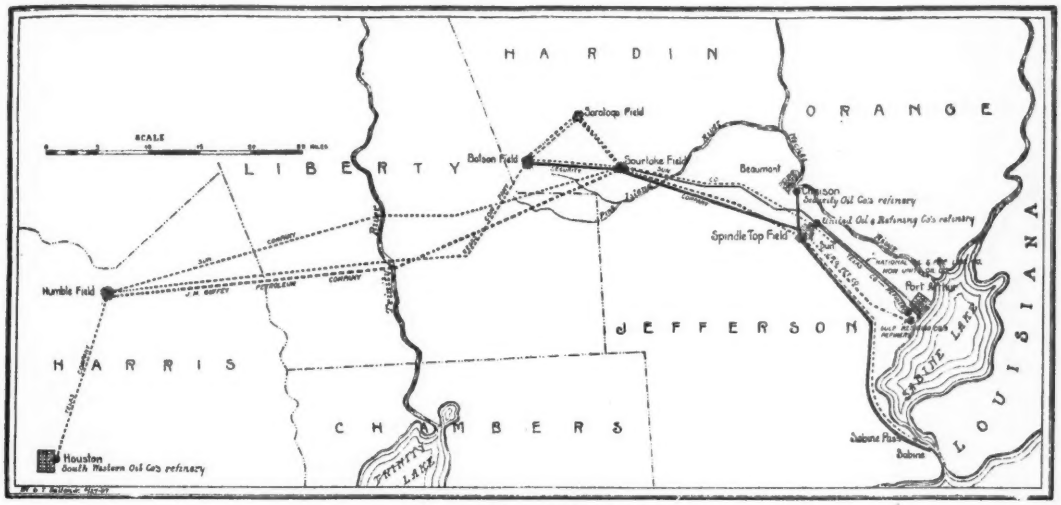
UNITING ALL KINDS OF ACTIVITIES

The evolution of the present company from the beginnings made in 1870 by Mr. Rockefeller and his friends at Cleveland is pretty well known. The meaning of it may be written in few words. Its aim was economy of operation, and such control over the transportation and refining and marketing of oil as would best conduce to such economy, and the full and complete operation of such control. The Standard people bought, and paid for, dozens of small refineries. Some are operated to-day. Many were torn down and abandoned. If a refinery was so located as to be extravagant in operation, was far from the market, or far out of the line of direct transportation, or left behind as the oil production moved, there was no hesitation in letting it go. Its stills might be moved from northern Pennsylvania into Illinois, or elsewhere. Its miles of pipe might go to any one of a thousand points. Its goodwill, if it had any, came to the Standard Oil Company, and became part of it.

The growth of the pipe-line system went step by step with the growth of trade. The lines were pushed wherever needed. The company did not invent pipe-lines. They were used in the oilfields before Mr. Rockefeller knew anything about oil. He simply took the idea and developed it. It served to overcome the bulk of the troubles arising out of freight delays, shortage of equipment, and

other causes. It was one of the greatest and most far-reaching methods of the cheapening of oil production.

To-day, progress continues along the same lines. The Standard Oil Company still struggles for economy, knowing that to-morrow it must meet again its rivals in all the markets of the world; knowing, too, that they are profiting by its experience, that they have methods no less skilful than its own. There are few secrets in the oil trade. The Standard Oil Company knows that every step it takes, reach conclusions of some commercial importance. Judging from what one may learn in conversation, the gatherings are very informal, mere discussions of small routine affairs such as the members of most firms discuss over the lunch table, or in minor conferences from time to time. There are a thousand little details that come up for settlement, the minor matters that in a firm or partnership are handled personally by some responsible person, but in a corporation must receive attention from some committee or organization



THE TEXAS PIPE-LINES

In Texas to-day, the Standard Oil Company has no interest

though it may have required twenty years to get ready for it, may be taken also by its rivals in foreign fields within the next six months. It can win only by being forehanded.

The organization of the company, therefore, has to be compact, efficient, swift of action. The company must be in a position to consider on the moment, and to bring to that consideration the best brains it can command.

And so, every day in the year except Sundays and holidays, there is a gathering of oil men at 26 Broadway. It seems to consist of the practical, active men in the Standard Oil Company organization. Just what they discuss or do, I cannot say. I know that they hear all the news of the day in oil. They receive voluminous reports on the exports, the marketing, the production, and the refining of oil. They watch the world at large, the progress of a convention in Russia, the production of a little oil-field in Pennsylvania. They talk of ships, and men, and money. They debate, and duly constituted. In most big corporations, the executive committee meets each week to attend to such small matters; and the directors meet once a month, or by special call, to take up greater matters, and to discuss briefly the things the executive committee has done. As I see it, the daily gathering at 26 Broadway does the work usually left to an executive committee, and does it better, because of the daily meeting.

The world at large understands that the directors of this company receive reports from a host of "spies" now in the employ of the oil companies, but paid by the Standard Oil Company for information. Mr. Archbold denies it. He told me that the Standard Oil Company does not pay any money to any man in the employ of any of its rivals, either here or abroad, for this or any other purpose. He adds that it gets all the information it can get legitimately about the business of its rivals. It wants to know of any improvement in their methods. It watches their marketing

as closely as they watch its. It receives from many sources much news concerning these matters; but not one dollar goes to the payment of men who could be called "spies."

It is well to say, in passing, that Mr. John D. Rockefeller has not been active in the business of Standard Oil for thirteen years past. Once last summer he visited 26 Broadway, called around to see dozens of his old friends who work there, then went away, and has not, at this writing, returned. He has not been at a meeting of the board of directors in eight years. He has not been in the building, except for the visit mentioned, within five years.

But the spirit that he put into the business remains. It is the engine that runs the machinery. To illustrate, I found the same lasting kind of attachments throughout the business organization that made possible the close business friendship that has existed for thirty years or more between Mr. John D. Rockefeller and his group of allies, Messrs. Flagler, Archbold, Pratt, Lockhart, and the rest. I found, as I went through the building, dozens of men holding positions of trust, heads of departments drawing large salaries, men active and influential in the important functions of the company. I did not find one of them who is not heart and soul with the company. Nine out of ten are stockholders who have voluntarily invested the savings of their labor in the securities of the company for which they work.

POWER, PROMOTION, AND EMPLOYEES

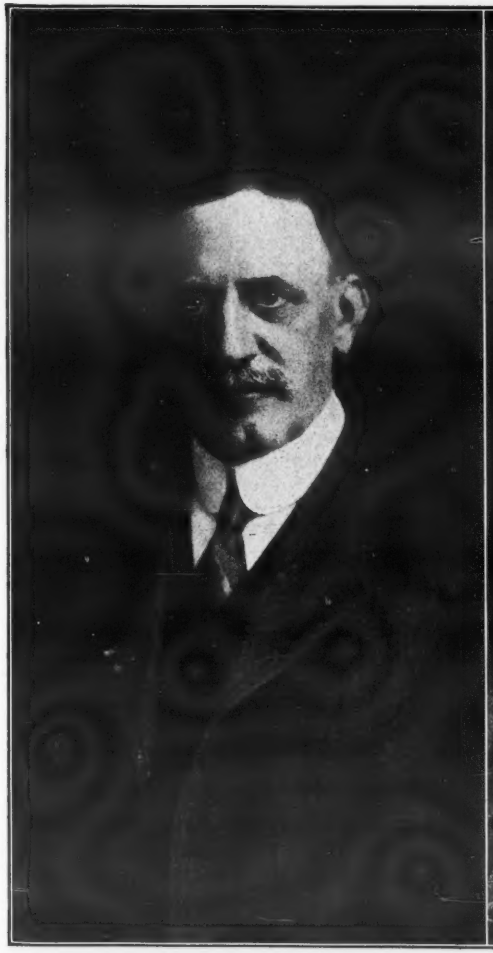
The men are promoted from the bottom up. In these days, few people come into the organization except as boys, beginning at low salaries, advancing as they deserve advancement. If they are not efficient, they go out quickly. If they are efficient, nearly all of them stay. It is astonishing how few leave to go to other companies in the same or any other business. The phrase "Few die and none resign" is current throughout the organization. There is no limit either to possible income or to possible rise in position or power. There are not many titles around the Standard Oil Company. There are many men of no titles who make larger incomes, enjoy larger responsibilities, and find a much larger scope than almost any officers of any other corporations in this country. Many of them who have authority are old in the service of the company. Many of them were oil men before they came to the company. In the old days, for instance, all the foreign selling was done through commission merchants in New York and at other export points. In the process of eliminating the middlemen, the Standard Oil Company looked over the field and chose the men who seemed most capable and who commanded the largest part of the several foreign fields. From that source came many of the men who are to-day handling the business in foreign lands.

In talking to the men of the company, I had in mind at all times the question whether the salaried men were allowed any initiative, or were merely part of a perfectly running machine. I found them men of broad intelligence for the most part. The heads of important departments, men without titles but of great importance in the organization, seemed at least the equals in intelligence, independence, initiative, and personal power of any officials of great corporations whom I have met.

The *esprit de corps* is surprising. They are not colorless clerks, obeying orders from headquarters, and never daring to protest, or suggest anything new; but broad business men, commanding huge responsibilities, wielding immense power. Without exception, I found them wrapped up in the Standard Oil, loyal to the last degree. One of the heads of departments told me that almost every man who has been long in the service of the company has put his savings in the stocks; and he volunteered the information that some of the stock he owns cost over $700 a share. These men have constantly before them the possibility that some day they will join the executive forces, the "inner circle," taking the places of the men who lay down their burden.

"For you know," said he, "the Standard is loyal to its men. They have never brought men from outside to put them ahead of the men who work along in the inside. They don't give us titles and honors as we go along, but they pay us better salaries than any other corporation pays; and we know that when they need in the board such knowledge as we have they will call on us to supply it, and not get it from outside."

That these men on salary have plenty of initiative was apparent from the way they talked. I found, for instance, that such affairs as the distribution of naphtha and gasolene in New York City — no light task — lay almost entirely

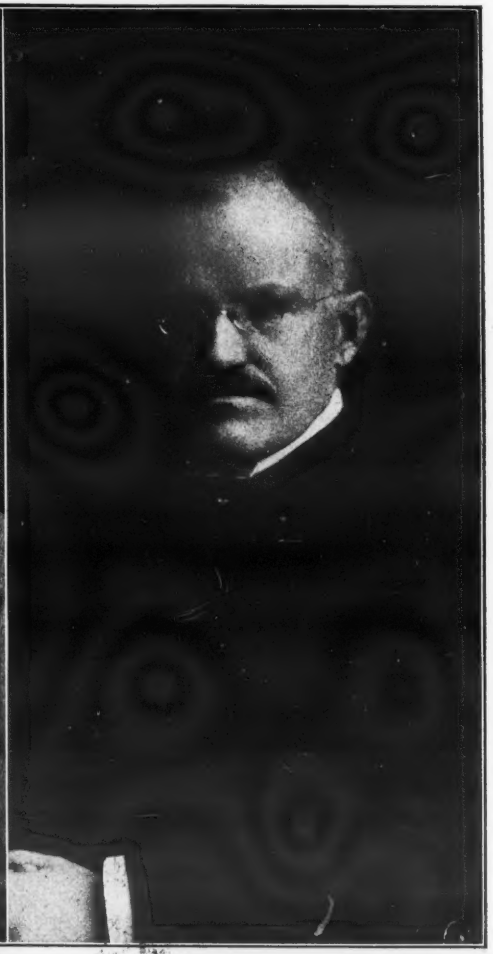


MR. JAMES A. MOFFETT

Mr. Moffett, president of the Standard Oil Company of Indiana, is a practical refiner, with most of his work at Whiting, Ind.

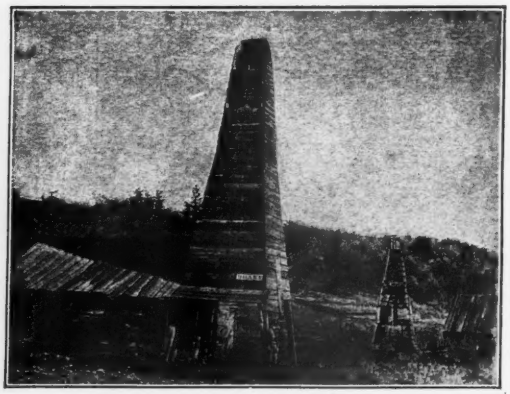
MR. M. F. ELLIOTT

Mr. Elliott, who made his reputation fighting the Standard Oil Company in Western Pennsylvania, is now head of its legal forces



MR. WESLEY H. TILFORD

Elected vice-president of the Standard Oil Company of New Jersey in June 1908, having formerly been treasurer

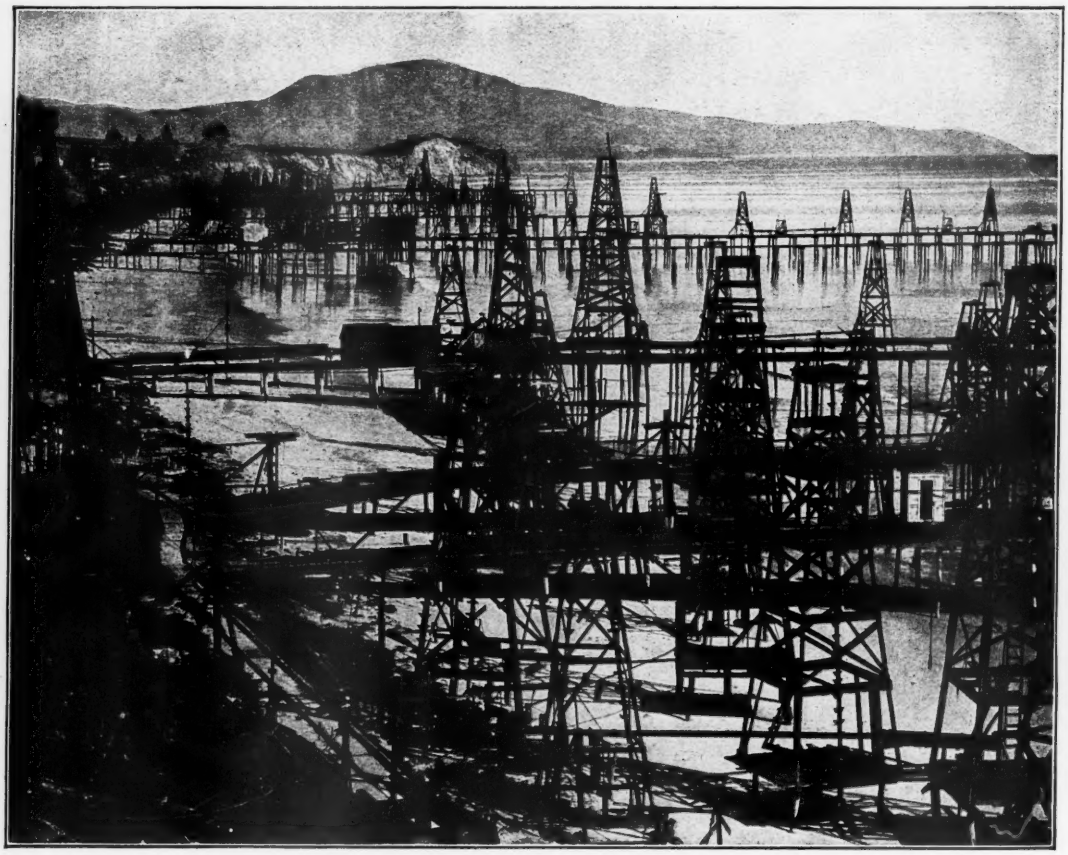


THE FIRST OIL-WELL
This old-fashioned derrick covers the famous "Drake Well," opened on Oil Creek, near Titusville, Pa., in 1859

within the jurisdiction of a salaried man; that the whole marketing of oil and its products in New York State is dominated by one such man; that innovations like the establishment of gasolene stations all around Long Island Sound, or along the main automobile roads of the country, are begun and carried on practically in his command; and even that the use of storage tanks and tank-wagons for distribution while not invented or adapted by any one man, was developed in the service of the Standard Oil, both in the United States and in Europe, largely through the initiative of a few men on salary. The details of transportation, a very important item in the business, appear to have been largely worked out by subordinates.

A REVOLUTION IN DISTRIBUTION

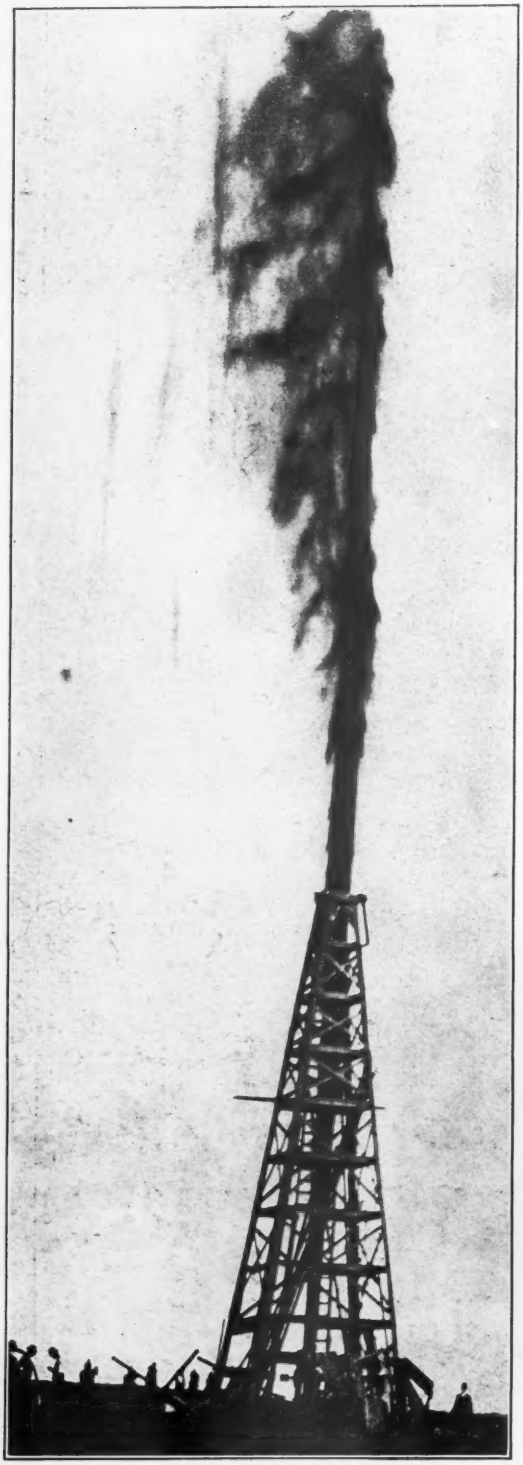
The tank-wagon method of distribution is worth noting, for it is one of the greatest and most successful changes in the oil business. Prior to 1875 there were only a few tank-wagons in the country. The idea originated



OIL-WELLS UNDER THE SEA
In the California fields, the strata of oil-bearing rock runs out a great distance under the sea. The wells are sunk through water and sand and production goes on just as on land

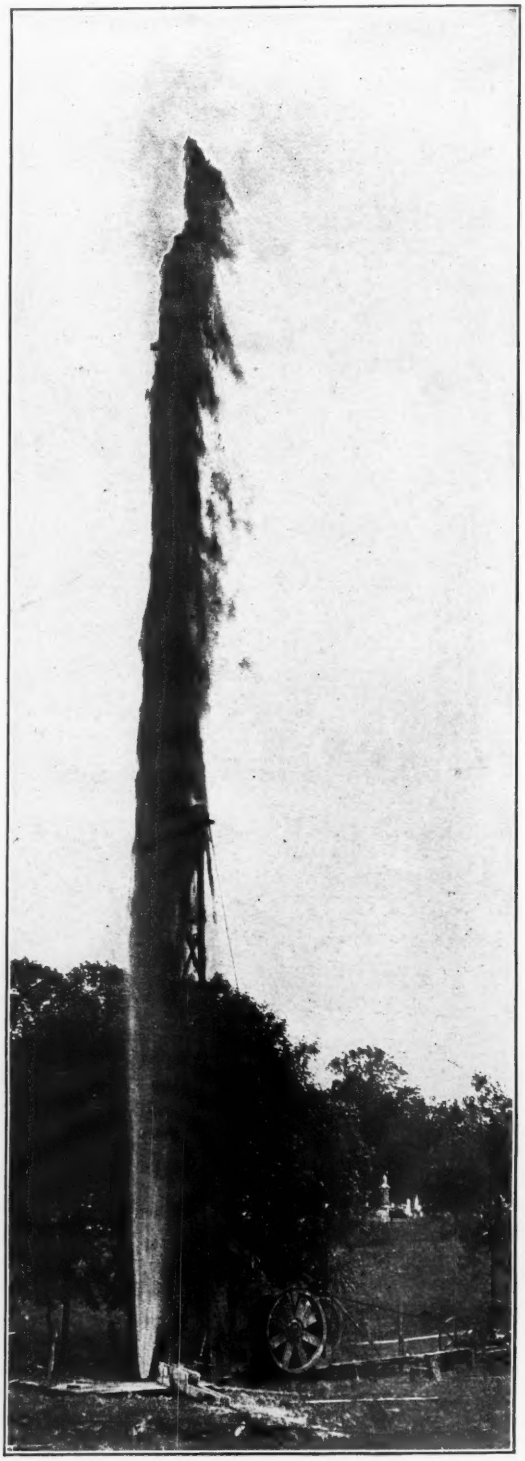
MR. WILLIAM ROCKEFELLER

Mr. Rockefeller is president of the Standard Oil Company of New York. His work to-day is advisory



"SHOOTING" A WELL

When oil is struck in boring a well a heavy charge of nitro-glycerine is let down and exploded. This breaks up the strata of rock so that the oil flows freely



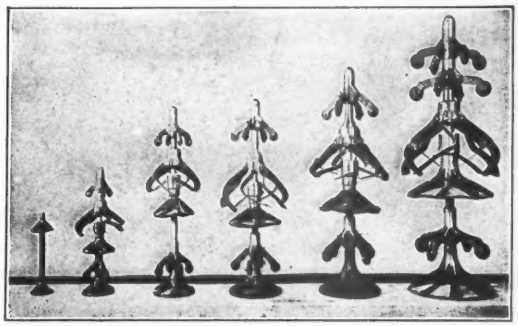
A "GUSHER"

Usually oil must be pumped from the wells. In some sections, newly opened wells flow with great force without pumping. In such cases the problem is to save the flowing oil

in the Southwest. By 1882 the Standard Oil Company had only ten stations, and a few dozen wagons, operating in New York and New England. The dealers had to buy in barrels of fifty-two gallons, or not at all. At first it looked as though the cost of distribution by tank-wagons would prohibit the method, but they kept at it until they had given it a thorough trial. The results surprised even the men of the company.

The saving comes in various ways. Perhaps the most important is in the cost of barrels and in freight. Less important, but quite important in the aggregate, is the saving from contamination through soft glue in the barrels and from necessary leakage. The fire risk, too, is not quite as great. The dealer now pays cash for his five or six gallons, whereas he frequently had to get his fifty-two gallons delivery on credit, and wait until he had sold it before he paid for it. The result was the entire reorganization of the selling system, so that to-day there are more than 500 stations in New York and New England alone, 3000 in the United States, and more than 5000 abroad around the world.

The cutting out of the intermediate profits is part of the gospel of the Standard Oil Company. To that end, millions of dollars have been spent in the past and more will be spent in the future. There are still many parts of the great machine that are supplied by outside dealers, but it is only because it has been found that to-day those parts cannot be manufactured as profitably as they can be bought. For instance, the company owns or charters a fleet of nearly 225 vessels of all sorts. It builds none of them itself. It tried it once with two barges, but found them far more costly than the barges built outside and they were not successful for other reasons as well. Therefore it continues to pay the builders' profits on ships. It looks as though it would continue to do so for many



PIPE-CLEANERS

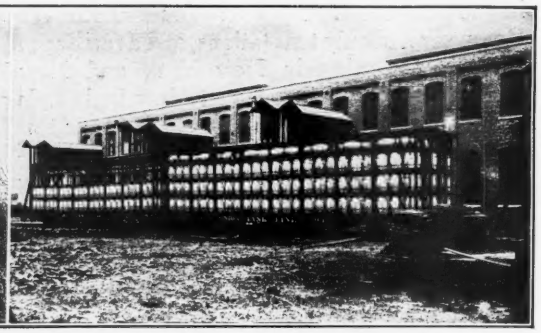
After a "run" of a certain grade of crude oil through the pipes, one of these "cleaners" is driven through ahead of the next "run"

LAYING A PIPE-LINE

The pipes are laid on the surface except where traffic or agriculture makes it impossible. They lie along the bottoms of rivers, and across arms of the sea. The pipe-line system is the real strength of the Standard Oil Company

FROM WELL TO TANK

The oil is pumped from wells in an oil-farm into local tanks, where it is tested and gaged. In the East, the small pipes form the connecting link

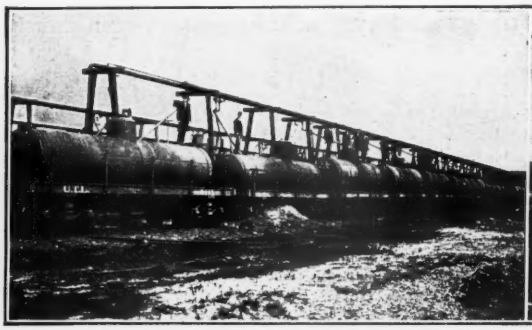


AN UNFAMILIAR TRANSPORTATION METHOD

Barrel-cars, especially designed for the transportation of barreled oil, are now rare and tend to disappear altogether as the bulk system spreads

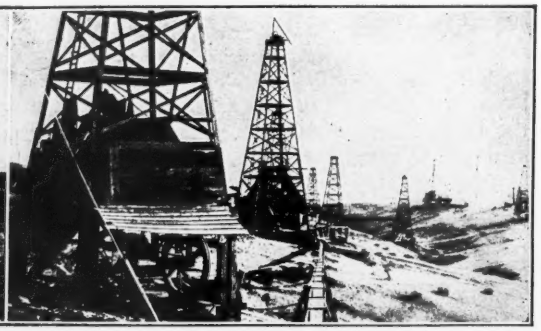
years. In the case of the seagoing vessels, nearly all this building is done abroad.

The iron pipes in the field are also bought from outside manufacturers. Some of the acids used in refining are made in New York, but most of them are bought outside. Once the experiment of making box shooks for the boxes to hold the five-gallon cans was tried, but nowadays they are bought from others. Some of the barrel staves are made from timber cut from the company's own forests, but here, too, it pays to go outside, principally because it is



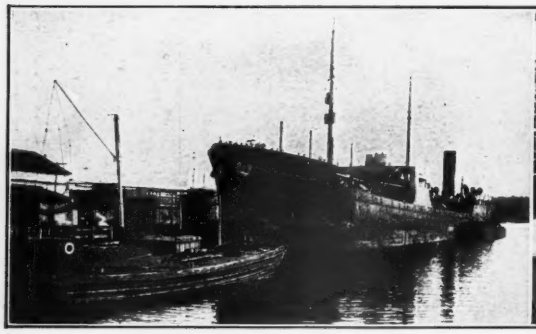
A DETAIL OF LAND TRANSPORTATION

Filling a dozen tank cars simultaneously by turning a tap in a system of pipes running from the storage tanks



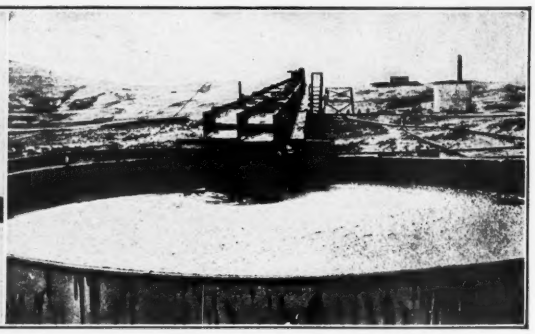
OPEN SLUICES AND DERRICKS

In the California fields the wells often pump into small sluices, instead of pipes, and the oil runs to the tanks by gravity



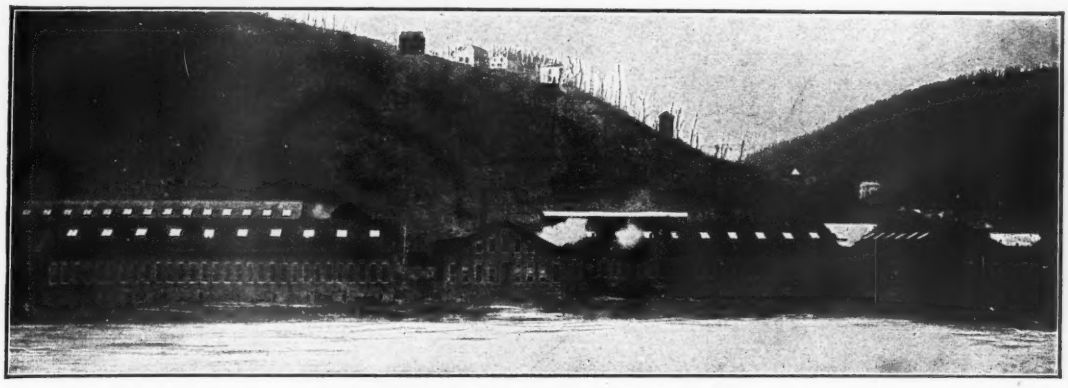
OFF FOR FOREIGN MARKETS

A huge tank steamer, towing a barge loaded with oil, is the latest development in the transportation of petroleum. The picture shows the largest ship in the trade, the *Iroquois*



RUNNING OIL TO CENTRAL TANKS

In the East, the local tanks drain into the central tanks by pipes. In some parts of the California fields open sluices are used for this purpose



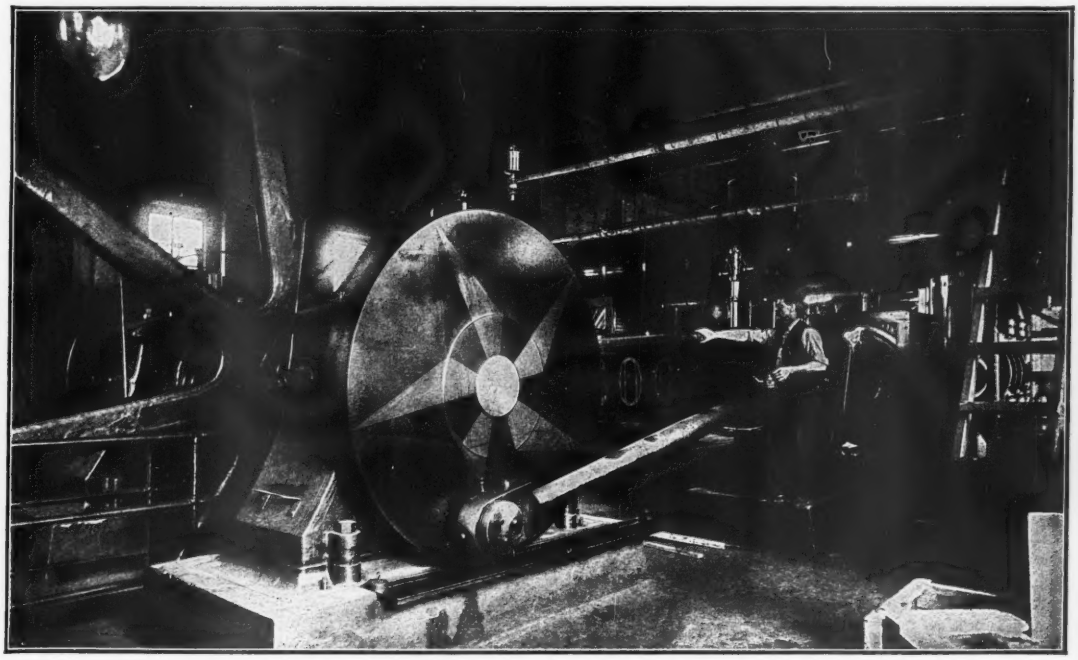
THE BIGGEST PUMP WORKS ON EARTH

As the use of pumps spread, the Standard Oil Company began to manufacture them. The main pump plant at Oil City, Pa., shown in the picture, makes everything from the small well-pump to the huge gas-pump that drives gas from the wells to light the cities of Indiana

not expected to continue to use even as many barrels as are used to-day, and the company does not care to establish plants for an industry that may not be permanent.

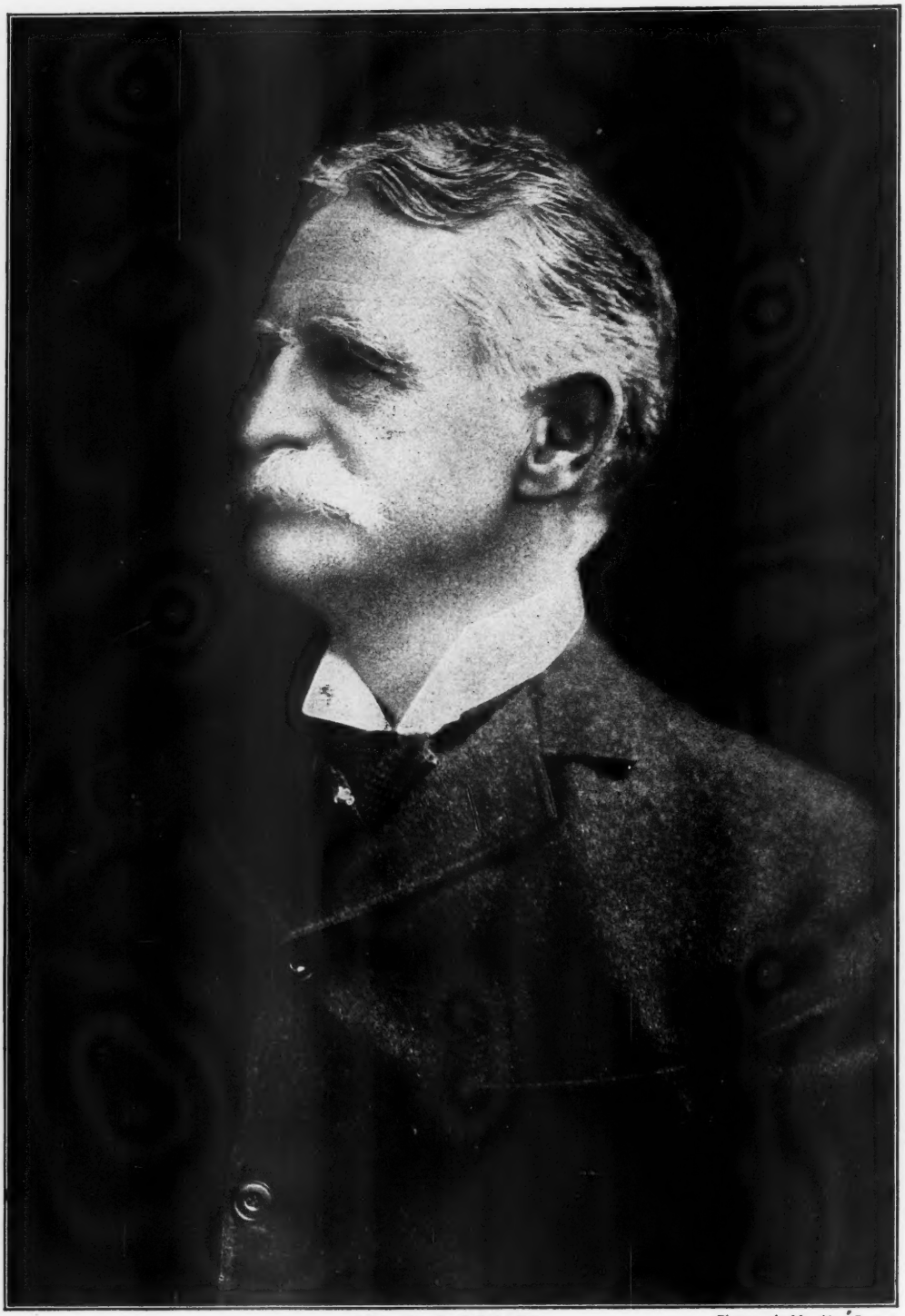
THE MANY CORRELATED INDUSTRIES

The business of the company is the production, transportation, refining, and marketing of petroleum and its products, including natural gas. It tries to do everything that is properly tributary to that industry. It manufactures lamps, wicks, pumps, barrels, cans, boxes, tanks, wagons, and tank cars. The pump works at Oil City, Pa., is probably the biggest plant of the sort in the world. There they make all sorts of oil pumps, from the small



A LARGE PUMP AT WORK

In the oil business pumps are now used at the wells, on the pipe lines, in loading refined oil, and in raising water for use in the refineries. The picture shows the largest pump in the largest refinery, at Bayonne, N. J.



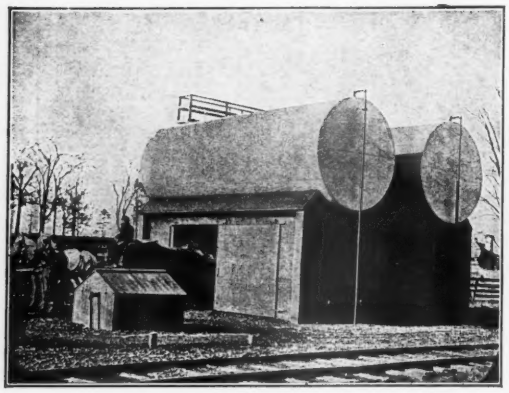
MR. H. H. ROGERS

Photographed by Aimé Dupont

Mr. Rogers is a veteran in the oil business, having pioneered in Pennsylvania, refined in Brooklyn before the Standard Oil Company was formed, and served with it since Charles Pratt & Co. became part of it. He is the head of the National Transit Company, which operates pipe-lines

THE HEADQUARTERS OF THE STANDARD OIL COMPANY

The square tower in the centre of the picture is the distinctive feature of 26 Broadway, owned and occupied by the Standard Oil Company. In this building are the offices of nearly all the men most prominent in the oil business of the United States



A BULK-STATION

Hundreds of these tanks are scattered over all parts of the country. They form an important part of the system of distribution

A TANK-WAGON

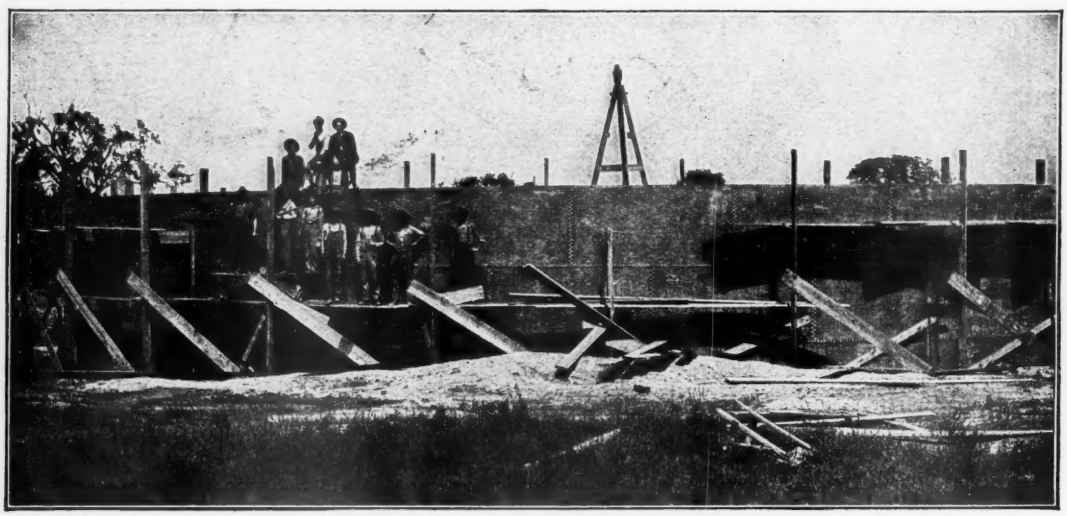
These wagons form the link between the 3000 bulk-stations in the United States and the retail dealer. In many districts they also distribute direct to the consumers

pump needed for the local collecting lines and the wells to the tremendous compressor that drives the eight and twelve inch streams of crude oil through the main line of the pipe system or forces gas from the wells to light the cities of the Middle West. Seven large plants are hard at work to-day making the five-gallon tin cans that carry oil to the Orient and other outlying regions of the world. They make about 325,000 cans a day. Seven other plants turn out about 16,900 barrels a day. Four plants, at Buffalo, Lima, Cleveland, and Chicago, build tank cars. At Cleveland, too, is a plant for building tank-wagons.

All these wonderful activities centre at 26 Broadway, New York. I cannot say that any one man is the real head of the Standard Oil; for, since Mr. John D. Rockefeller retired, many heads have collaborated. Mr. William Rockefeller's work is largely of an advisory nature; Mr. H. H. Rogers is president of the National Transit Company, which administers the pipe-lines; Mr. M. F. Elliott is head of the legal department; while the refining and marketing and transportation is looked after by many others.

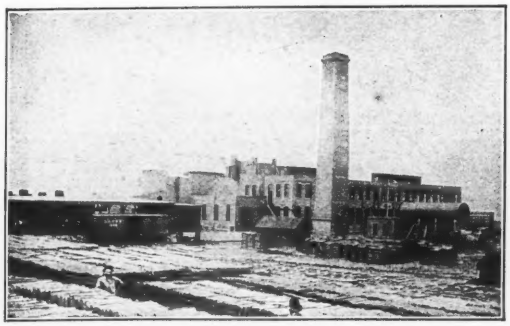
A STANDARD VICE-PRESIDENT

One of the interesting officers with whom I came in contact in my work at 26 Broadway



BUILDING A MODERN IRON TANK

Its capacity is 37,500 barrels. During the Kansas development the Standard Oil Company began to build one every twenty-four hours



A STAVE YARD

The company manufactures its own barrels, from wood cut from its own forests

GLUE POTS

The making of the glue used in the manufacture of barrels is one of the company's savings in manufacturing expense

is Mr. John D. Archbold, one of the vice-presidents. Nearly forty years ago, a young impetuous fighter, he made his mark in the oil world as one of the most aggressive opponents of the South Improvement Company. Later, he joined the Standard Oil Company, and has been of recent years prominent in all the larger accomplishments in all departments, from production to export. He came to the Standard when strong men were eagerly sought.

IN THE BOX FACTORY

Each "case" holds two 5-gallon tins of oil. The machine makes the boxes, fitting, nailing, and finishing a box in about two minutes

THE NEW METHOD

The largest pumping station, at Bear Creek, Pa. The crude oil is pumped in large pipes from the oilfields to the refineries

THE OLD METHOD

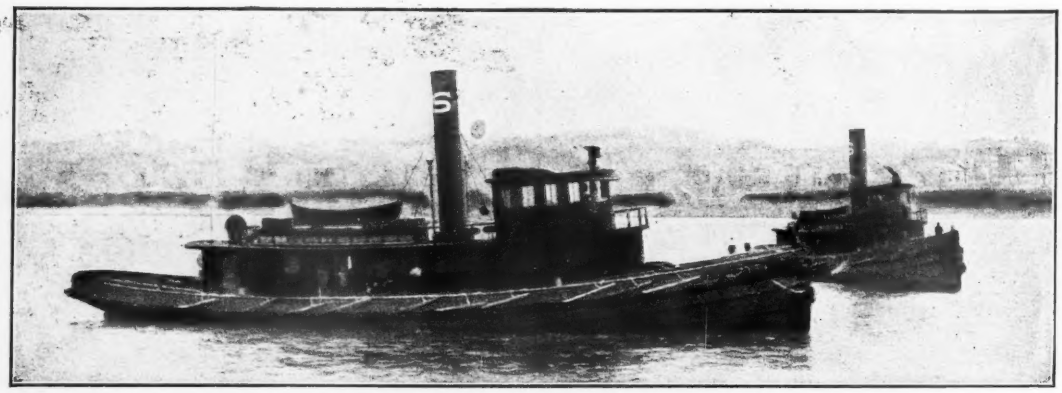
In the early days, crude oil was barreled and floated in barges to the refineries. The picture shows barges on the Allegheny River

From that time, he has been a trusted Standard officer. Like most of the company's officers, he works hard. One may find him in the plain, unadorned office almost every day, working away as though he liked it. That is the characteristic of the Standard men; they take few holidays and brief at that.

The offices at 26 Broadway deserve notice. I know few large executive offices of corporations that are plainer, or barer of ostentation. The clean kalsomined walls are devoid of paintings, frescoes, anything at all. In the marine department we find photographs of ships, big and little, with the place of honor given, perhaps, to an ugly but useful barge. Mr. Archbold's outside office is decorated, if we may use the phrase, with old pictures of some refineries; about as unlovely a subject as he could find.

There are no Oriental rugs, no big mahogany desks, no precious chairs and cases such as one may find in almost any mining company office, or broker's office over in Wall Street. Instead, the place has plain oak desks, flat tables of severe design, useful if not beautiful chairs. It is a place designed for use, not beauty. Up in the top story is a big lunch room, where daily the big and little gather together to eat. Here is democracy at its simplest. Here are no iron-clad conventions; the veterans of the trade and the men who are working their way from the ranks as the veterans worked before them sit down together to the same fare. I do not know of what particular value the lunch room may be to the company. Perhaps some time is saved; perhaps it has helped to create and foster the deep, admirable spirit of *cameraderie* that I found prevalent throughout the system. I do know, because the officers have told me, that the company would not be without it.

(*The third article of this series will deal in some detail with the refining, producing, and local marketing of oil. The risks of the business will also be outlined.*)



THE TYPICAL STANDARD OIL COMPANY TUG

Hundreds of tugs, marked with the big white capital S, handle the Standard Oil Company's lighterage business in all the principal seaports of the world

THE WOMAN'S DORMITORY OF CHICAGO UNIVERSITY

Photograph copyright, 1905, by J. E. McGue, Cleveland, O.

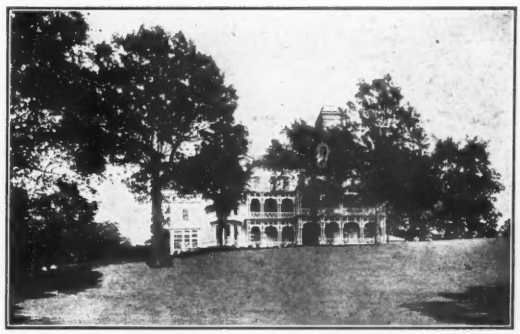
SOME IMPRESSIONS OF JOHN D. ROCKEFELLER

THE POPULAR JUDGMENT AND MOB OPINION—THE OTHER SIDE OF SOME CURRENT STORIES—THE MAN'S APPEARANCE, MANNER, HABIT OF LIFE, AND PHILOSOPHY—HIS GENIUS AS GREAT FOR GIVING AS FOR ACQUIRING

BY

F. N. DOUBLEDAY

NEARLY a year ago, I met by chance a gentleman who told a story favorable to Mr. John D. Rockefeller and his partners. This was so great a novelty that it excited my strongest interest and I was astonished to learn that this man had been for years a competitor of the great oil company and yet remained exceedingly prosperous; further than this, that he regarded the Standard Oil Company as a worthy and honest rival, that its competition was intelligent instead of the reverse, that the managers looked upon things in a broad-minded way instead of a mean and narrow way, and, in short, that the people of



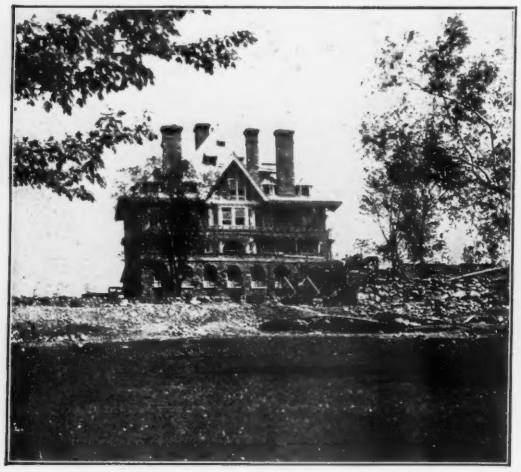
FOREST HILLS
Mr. Rockefeller's home at Cleveland

THE OLD HOUSE AT POCANTICO, N. Y.

the country ought to be proud of what Mr. Rockefeller and his great company had accomplished all over the world.

Naturally, such statements aroused my deepest interest, for my previous impressions of Mr. Rockefeller had been derived from what I had read; and all that I had read about him was, so far as I can remember, to his discredit. Investigation proved that this gentleman was not a hireling of the octopus, that he was well known and respected and that he meant exactly what he said.

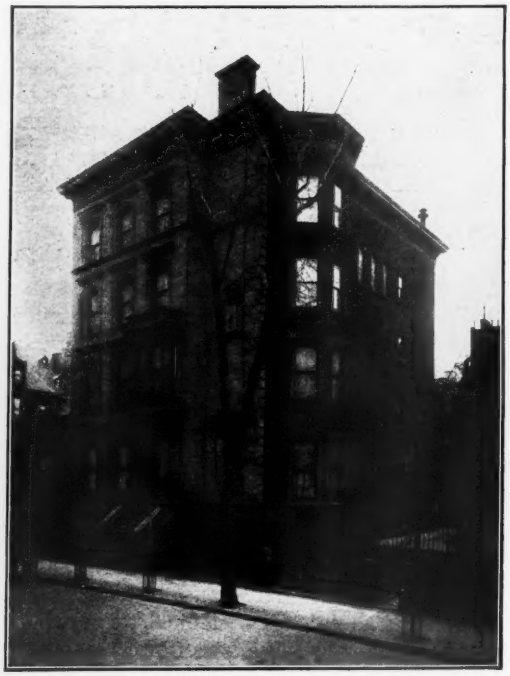
Later, and by another chance, I met Mr. Rockefeller, and under such circumstances that the way opened to long talks with him. I confess I found him exactly the reverse of what my reading had led me to expect, and my experience created the desire to try to convey the impression I had received to others.



THE NEW HOUSE AT POCANTICO
The first house which Mr. Rockefeller has had built

TRANSPLANTED TREES AT POCANTICO
In his nurseries Mr. Rockefeller has set out many thousand trees at a time, to be used later in transplanting schemes at Pocantico and Lakewood, N. J. Some of the trees moved are full grown

Instead of a proud and arrogant person, Mr. Rockefeller seemed modest and friendly. It was exceedingly difficult to adjust the notion

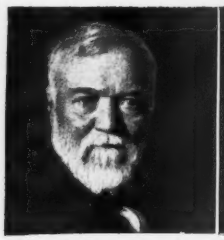


MR. ROCKEFELLER'S NEW YORK HOME

Photograph copyright, 1905, by J. E. McGue, Cleveland, O.

MR. ROCKEFELLER ON HIS OWN LINKS AT CLEVELAND

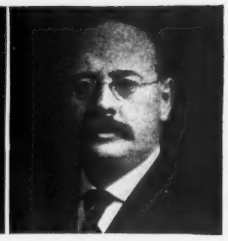
Golf is his chief recreation and he plays a good game



Mr. Andrew Carnegie
of New York

Mr. Robert C. Ogden
of New York

Mr. George Foster Peabody
Treasurer of the Board



Dr. Wallace Buttrick
Secretary of the Board

President Edwin A. Alderman
of the University of Virginia

of a powerful despot to this man, who appeared to me to be a kindly gentleman. He led the talk to subjects I should not myself have brought up, he appeared willing to talk about and to discuss anything, and he finally invited me to ask him any questions I had in my mind. This I did, and his frankness amazed me. He seemed to have no secrets, there was no air of mystery, no secretiveness.

President Charles W. Eliot
of Harvard University

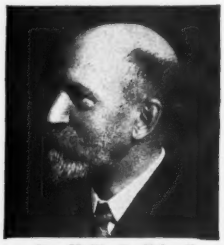
President E. B. Andrews
of the University of Nebraska

A distinguished lawyer once said that Mr. Rockefeller must be guilty of the things charged against him, because no one would dare to print such statements unless they were true — it would be libelous. This seemed good reasoning at the time, but let us follow the idea to its logical conclusion.

Mr. John D. Rockefeller, Jr.
of New York

There are only two ways of inflicting punishment for libel: sending the libeler to jail, or levying a money fine. If such a suit as our lawyer friend had spoken of had been brought and had proved perfectly successful, we should have been confronted with the spectacle, not entirely devoid of humor, of the court instructing a professional writer to pay Mr. Rockefeller, say $10,000, to salve his injured feelings; or, in case of criminal libel, sending the writer to jail to pose as a martyr for daring to defy the rich and great. There are some disadvantages in being blessed with

Dr. Albert Shaw
the Editor of the *Review of Reviews*



Dr. Hollis B. Frissell
Principal of the Hampton Institute, Va.

President Harry Pratt Judson
of the University of Chicago

Mr. Hugh H. Hanna
of Indianapolis, Ind.

Mr. Starr J. Murphy
of New York

Dr. Daniel C. Gilman
of Baltimore

MEMBERS OF THE GENERAL EDUCATION BOARD

The trustee of more than forty-two millions given by Mr. Rockefeller for the promotion of education

(The portrait of Mr. F. J. Gates, the President of the Board, appears near the front of the magazine.)

an abundance of this world's goods, standing as a large figure in the public eye, and at the same time having the feelings and emotions common to all the other members of the human family.

THE OPINION OF THE CROWD

It is fair to remember that Mr. Rockefeller has been tried only in the court of popular magazine and newspaper opinion. He has never appeared even in that court in his own defense; he has had no authorized advocate to represent him; but it would have made no difference. Dreyfus did appear for himself, he had powerful attorneys; but the crowd proclaimed him guilty before, during, and after the trial, and that settled it until the heat of passion had died away. It took several years for the public mind to regain the normal, during which time Dreyfus lived on Devil's Island.

Le Bon, whose ideas, expressed in "The Crowd: A Study of the Popular Mind," have now been widely accepted, has this to say in the chapter on "The Opinions and the Beliefs of Crowds":

"In enumerating the factors capable of making an impression on the minds of crowds all mention of reason might be dispensed with, were it not necessary to point out the negative value of its influence.

"We have already shown that crowds are not to be influenced by reasoning, and can only comprehend rough-and-ready associations of ideas. The orators who know how to make an impression upon them always appeal in consequence to their sentiments and never to their reason. The laws of logic have no action on crowds."

It is not to be doubted that M. Le Bon states what is profoundly true; and the popular judgment of Mr. Rockefeller has been a mob judgment. But there are many men of business prominence and of the highest standing in the scientific and educational world who never shared the popular opinion of him; and, as the crowd-opinion loses its hold, there may be some who will care to read a first-hand impression of the man by one who had accepted all the printed statements at their face value.

The difference between the impression which is derived from actual contact with Mr. Rockefeller and that which is produced by reading some of the published accounts of him is illustrated by the following extract from a letter written by a woman who, before she had met him, had entertained so violent a prejudice against him that she had said that she "would not accept his tainted money even to save a starving child":

"There came forward a courteous old gentleman whose face, to my astonishment, showed no trace of the cruel marauding hawk nor yet of the crafty fox, such as I had confidently expected to see limned on 'the certain index of the soul' of this notorious leader of the gang of 'predatory rich.' The face is calm, thoughtful, but ready to break into a smile at a passing witticism, and illumined by very blue, serene eyes that neither wink nor rove as a wicked man's should while conversation proceeds. But they look you straight through. I watch Mr. Rockefeller narrowly day after day, determined to catch him off his guard and discover some small action, some careless remark, that must reveal the wolf beneath the sheep's clothing. We talk over his past history with the perfect candor, directness, and simplicity which he himself heartily invited, walk with him about the golf links, see him with his family at evening, idle with him where he mingles with all sorts and conditions of people in a modest, kindly way.

"The person from whom I got all my prejudices, I am amazed to learn, never met him to speak to. His snubs are all in print. Critics and vilifiers are not to be found in the ranks of those who really know the man, you will please take pains to observe.

"Intensely prejudiced against him as I really was after reading through a long course of abuse, and thanking God that fearless pens had consecrated themselves to saving the youth of America from the worship of Mammon as typified in Mr. Rockefeller, I now confess that every day some fresh evidence convinces me that he has been cruelly wronged. I see many episodes in an entirely new light after relentlessly plying him with questions with the most unblushing frankness. He dodges nothing, answers any query with what seems to me perfect reasonableness. He is very sensitive; anyone who watches his face closely can see that. He and his family have endured untold suffering under their lashings in public, but he does not complain about it. Such a triumph over natural human impulses seems to me greater than gaining all his millions.

"Some time the American people will judge him justly. 'Why, John, they will be building monuments to you when you 've been dead and gone twenty years,' said a sententious friend to him one day. The face of the man quivered a second before it showed the faint ghost of a little smile."

Mr. Rockefeller's early life has been described again and again, and there is no reason to repeat the story or to make the effort to

show that because he is a member of a church-going family and has always been a church-going person, he need not necessarily be, *per se*, a hypocrite. But Mr. Rockefeller's religious training was of the old-fashioned kind, and his church was very important to him. He attended regularly, and he has worked in its interest consistently all his life. For this he has been called a hypocrite, because his enemies have condemned what they have judged to be his iniquitous business morals and assumed that appearing in church was proof of his desire thus to gain public credit to offset public blame. If true, surely this is good cause for the public to take offense. But so far as I can discover, no one has suggested any proof that Mr. Rockefeller goes to church with the desire to attract public attention.

Certainly, the writer of the following paragraph did not gain any such impression :

"We met Mr. Rockefeller at a church for colored people this morning. He seemed to take an immense interest in the sermon, the people, and the singing. To see him take a place in quiet and friendly relationship with this colored church, to sing the hymns, and to appear so unconsciously at home among these very poor people, was a lesson in simplicity to me. The courtesy of the colored people might well be observed. Mr. Rockefeller was not stared at, nor did any one appear to notice his presence more than that of any of the other white visitors who had come to hear a remarkable man preach."

AN EARLY STORY OF MAKING OTHERS GIVE

A characteristic and true story is told of his relations to the little church in Cleveland to which the family belonged when he was scarcely more than a boy. It had a debt of $2,000 — a mortgage held by one of the elders, who became tired of waiting for his money. One Sunday the preacher announced that the church would be sold over the heads of the congregation unless this money could be raised. Young John Rockefeller elected himself to the office of raising the cash. Hurrying to the door, he reached it first and as each member tried to pass out he buttonholed him or her and secured promises for such sums as each could afford to pay. Every cent of the mortgage was raised, but it took a number of months to do it. The church realized that it had a forceful character in its midst; he was elected a trustee when eighteen years old, and that church did good work and made progress in the community.

Mr. Rockefeller had a little book in those days which he called Ledger A, in which he used to set down his petty earnings and his petty gifts. There has been a good deal of fun made of Ledger A, and there may be, from some points of view, an element of humor in a book so naïf and honest as this book was. It told the facts of its keeper's financial happenings and taught the habit of looking financial truth in the face, but the important part that these childish items revealed was that the owner recognized even at that age the duty and pleasure of giving. Mean men may give, but it is not a pleasure with them, and a man's heart cannot be black clear through if he enjoys hearing of other people's troubles only to relieve them, not alone through the usual machinery of organized charity, but personally and through his own machinery and out of his own pocket. These things young Rockefeller did in his boyhood and young manhood, when money was by no means plentiful with him. Fortunately for him, it cannot be said that at that time his purpose was to advertise the oil business.

While we are on the subject of gifts and a man's duty to the public in so far as his material possessions go, I wish I could reproduce here the long talks I have had with Mr. Rockefeller about the art of giving in such a way that it will do some service to humanity. I learned for one thing that, if done conscientiously, it is a time and thought consuming task. To the ordinary mind, one would say that having a force of clerks to look after one's financial interests, the task was simply to tell the cashier to draw a check for so much. If it is really as easy as this, then Mr. Rockefeller is sacrificing his time and effort unnecessarily.

He is not satisfied to give away money only through the broadest channels which lie at one's hand, but he has felt the need of trying to do the task in a more efficient way, and he has what seemed to me some revolutionary ideas on this subject.

HIS ENDOWMENT TO CONQUER DISEASE

Mr. Rockefeller's great success in business was along constructive lines. This reflects the nature of the man. His whole attitude to life is that of a builder. Even his recreations are along constructive lines. One of his chief delights is to build up the large estates which surround his various homes. He spends a large portion of his time in personally planning

out where roads can be built and trees can be planted so as to add to the beauty or utility of the place.

In the same way his philanthropic interests lie in broad, constructive ways. He likes to get at the causes of things and to apply his strength and influence in a creative way. Instead of trying to relieve individual cases of poverty or of suffering, he prefers to try to remove the causes of poverty and suffering. I do not mean that he is indifferent to the needs of individuals in those matters of giving which are purely personal, but he realizes that such giving must necessarily be very limited in its scope and must be confined to those cases where he gives not as a millionaire but as a friend and neighbor. With regard to the exceptional resources which are his — as to which he feels to an unusual degree a sense of trusteeship for his fellow-men — his tendency is to lay the emphasis upon constructive and preventive rather than upon remedial measures. This is particularly well illustrated in his attitude to the problem of human suffering caused by disease. He has given comparatively little to hospitals, but is giving much to help science to make these hospitals more useful. And through scientific research he is contributing his quota to bring about the day when the value of hospitals will be increased a hundredfold.

The spectacle of a human being in pain is one which makes a direct appeal to the sympathies. It is comparatively easy, therefore, to raise money for those instrumentalities which have to do with the direct relief of suffering. Mr. Rockefeller has felt, therefore, that these agencies can safely be left to the care of others. But far more important than the relief of an individual case of sickness is the discovery of its cause and of means of controlling and eliminating disease itself. This is the problem which appeals to him, and as a means to the solution of it he has established the Rockefeller Institute for Medical Research, located in the city of New York, which is the only philanthropy to which he has given his name. This was organized in 1901. Its work consists of the most exhaustive scientific investigations into the nature of disease and the methods of its prevention and cure. Its principal laboratories are located in the city of New York, where it maintains a staff of about twenty-five highly trained experts, and, in addition, it has about fifteen men working in laboratories in various parts of the United States, and two men in foreign countries, all of whom are maintained by grants from the treasury of the Institute.

Of course a great deal of the effort of such an institution is of a character which has no immediate bearing upon the treatment of disease. Before we can hope successfully to cope with disease in its various manifestations, we must know what are its causes, the life history of the hostile organisms which produce it, or the nature of the abnormal processes from which it results. These researches involve some very obscure problems which sometimes take the investigator very far afield, not only into biology, both of the animal and the vegetable world, but also into the sciences of chemistry and physics. At the same time, the ultimate object of the investigations made at the Institute is the relief of human suffering through the conquest of disease.

FINDING A CURE FOR SPINAL MENINGITIS

The work of the Institute has already produced one momentous practical result, and that is the discovery of a cure for epidemic cerebro-spinal meningitis. This has heretofore been one of the most terrible diseases with which humanity is afflicted. In general, about 75 per cent. of all the cases have terminated fatally, and in the majority of those cases which have recovered death would have been preferable, as the patient is left defective if not absolutely imbecile.

As the result of an outbreak in New York City in 1904, Dr. Simon Flexner, who is at the head of the Institute's work, was requested by the Board of Health of the city to serve on a commission for the study of this disease, and accordingly entered upon a series of orderly and prolonged investigations. These have happily resulted in the discovery of a serum and a method of administering it which appear to have furnished at last a means for controlling the disease. The mortality has been reduced to about 25 per cent. instead of 75 per cent., and where the serum can be administered in the early stages of the disease nearly nine out of ten recover; not only do they recover, but the patients are restored to completely normal conditions. The serum is obtained by inoculating a horse, as in the case of the diphtheria antitoxin, and the Institute has placed this serum at the disposal of physicians in various parts of this country and of

Europe where epidemics of the disease have broken out. Returns have already been received from several hundred cases, and the results are so uniform and so good as to lead to the confident hope that this disease is at last under control.

THE BUSINESS LAW IN PHILANTHROPY

Mr. Rockefeller made a vast amount of money in foreseeing the great movements of business. As his power grew, he could do this with better judgment than most men, because he was in closer touch with the great gulf streams of trade. Now he has turned his attention from money-making, and has put this same brain to thinking out problems which affect all the people in a large way.

The way in which Mr. Rockefeller has worked out in his mind this principle of business as applied to giving is characteristic of the man; he thinks and acts along big elemental lines, and always has. Finesse in any form does not appeal to a nature like his, it is too small and slow a way of making progress. It is most interesting to follow the workings of his mind, which hews to the main line in whatever direction it starts. One is perhaps most impressed by the fact that, going along on these ponderous and weighty subjects, his mind works so rapidly and delves so directly and deeply to the substratum of things. In talking with him on a subject which he is interested in, one is seldom able to complete the point one is aiming at before he has grasped and digested the full significance of what one is leading up to.

He has worked out a number of principles. One is that because there is never enough money to supply all the needs, it must be made to do first the most pressing work; the affairs of money-giving and administration must be managed as effectively, he claims, as the affairs of money-getting. Now this is unemotional, it is probably a widely unpopular idea. A man who gives money usually wants the pleasure of seeing personally with his own eyes the grateful look of the beggar who may perhaps trade successfully upon his sympathies instead of doing a hard day's work.

Consider Mr. Rockefeller's way of looking at this whole subject from *his* point of view. He has the temperament which works upon scientific instead of haphazard principles. He plans along straight and big lines for the future and all time, his benefactions are intended not to die with him, but to go on no one can foresee how long. These are the plans that please him to work out.

It is one thing to give money as most men do, write a check and try to forget it; and another to devote one's days to making plans to give money in such a way that they may establish a system of giving which will avoid disaster instead of relieving it.

THE GENTLE ART OF PHILANTHROPY

A large proportion of Mr. Rockefeller's gifts have been to education in its broadest sense, and how far-reaching the influence of the use of some of his money is may be judged by a single activity among the many and larger activities of the General Education Board. In connection with the Department of Agriculture at Washington, it has at work under Dr. Knapp, in the Southern states, about 200 farm "demonstrators," who direct in all more than 32,000 demonstrations on as many farms. By a "demonstration," a farmer learns directly and practically by his own work on his own land the fundamental lessons of the best new agriculture and of good management. The result is that these farmers are increasing their yields, some by 25 per cent., some by 60 per cent., and many even doubling them. There has never before been such effective and revolutionary instruction in farming—perhaps never in any other art or industry.

This is only one of the activities of the General Education Board, and, as regards its cost, a minor activity. This board, made up of distinguished educational authorities, representing every section of the country and of successful men of affairs, is self-perpetuating, and it holds a larger sum in trust (more than 42 millions of dollars) than any similar organization in the world. Its largest work, in cost, is adding to the permanent endowments of well-established colleges and universities alike in every part of the United States. It is dispensing for this purpose the larger part of its income.

To Chicago University Mr. Rockefeller has given about 23 millions of dollars; and this liberal help has at once given it a permanent and strong place among our greatest institutions.

One hesitates to particularize as to how much money goes to any institution, because the human mind is so constituted in supplying for itself satisfactory reasons for doing what it

wishes, positive or negative, that if one should print the statement, for example, that Mr. Rockefeller had arranged to give such and such an amount to such and such a cause, the good people who had been helping on this self-same work would say to themselves (if not to others): "That lets me out." Many cases can be quoted where a large gift has decreased an institution's total income through this scapegoat of conscience. Yet the all-wise public asks again and again: Why does Mr. Rockefeller make a provisional gift of $200,000 on the stipulation that we give an equal amount? It 's easier for a rich man like him to give $200,000 than for 200,000 people like ourselves to give a dollar apiece.

As helping to establish a great principle of benefactions, I am sure Mr. Rockefeller will certainly gain in the end his greatest renown—and it will come in the end, too. The amount of his giving is not so important. One is told that he has already bestowed upon various institutions between $100,000,000 and $200,000,000—what proportion of his wealth this amounts to is, of course, not known, and he is certainly not likely to be praised most because of the mere size of the gifts; it is the spirit that must count with the millionaire as it did with the boy who kept Ledger A. But what is surely important in an estimate of the man is that he has made it the study of his life to determine the best ways of giving and to work for this great idea of the scientific organization in benefactions. Surely, it is an important achievement, for which he should receive credit if we are a just people, and wise enough to wish to tempt other rich men to turn their thoughts in this direction.

While most men of wealth are fearful of the results of their fortunes upon the character of their children, Mr. Rockefeller finds one of his chief joys in the hearty coöperation of his family, the aggressive work they do, along the lines already laid out. Not one of the least of his achievements has been the training of his children to desire to give intelligently and sympathetically.

Consider for a moment the machinery and study which go into the placing of one or two hundred millions of dollars in wise circulation. Mr. Rockefeller maintains at 26 Broadway a force of sociologic experts large enough to study all cases which are not merely frivolous or obvious parasites. Each of these is investigated and acted upon in accordance with the advice of those best qualified to judge its merits. The letters received come from every country on the globe and the vast number of the requests requires a good deal of work to handle properly. A single day's mail contained letters from twenty-two foreign countries.

It may seem that too much has been said about this work of giving, but no true sketch of Mr. Rockefeller's activity can be written without going into this phase of his career, because it has been his chief profession for many years.

THE NEED OF EFFICIENCY IN CHARITY

In this great plan of increasing efficiency in all charity, Mr. Rockefeller is most enthusiastic, and especially in the plans now being worked out by the General Education Board. He had received word when I was with him that Mr. Carnegie had consented to become a member of that board, and he was full of the idea that this coöperation would lead to the conception of many new developments, for this reason:

When a considerable sum of money is to be bestowed upon any institution, or given for any good cause, the wise giver must go to some trouble and expense to investigate its merits. This is done over again by practically every donor: Mr. Carnegie, Miss Helen Gould, Mrs. Russell Sage, and happily very many others. But it is Mr. Rockefeller's idea that a great saving would result in having this investigating done once and done well by people of unquestioned ability, and that this information should be put at the disposal of those who can avail themselves of it and the money which the investigation would have cost might be saved to make the gift that much larger.

Here we have the trust idea in philanthropy. It will unquestionably be resented by the purely emotional, and surely by all institutions whose methods are slipshod and unbusinesslike. It will be objected to when carried to its last analysis, on the ground that it, as do most trust workings, minimizes the personality of the individual, and that it makes a business proceeding of what should be primarily an affair of the heart. How much real sense is there in this? Do people who are in the thankless business of raising money find that their trouble comes from the fact that other people wish to give too scientifically, or is it not that they will not devote any great amount

of serious thought to the subject at all? The impulse to give must always come from the heart, then the head comes in as an administrator. More than one philanthropist has gone to his grave convinced that some of his emotional gifts have done the world not only no good, but positive harm.

ABOUT BUYING GOOD OPINIONS

The statement has been made that Mr. Rockefeller is giving money to buy his way into the good opinion of the public.

With the idea of discovering just how Mr. Rockefeller is conducting this so-called effort to buy good will and evade the righteous judgment of men, I undertook the task of finding out to whom and just how he had given these great sums of money, and the conclusion is forced upon one that if he has spent somewhere between one and two hundred million dollars to purchase this good will, he has not shown the business ability with which he has been credited.

Mr. Rockefeller seemed more than willing to discuss anything under the sun and he would talk of the principle of benefactions, but not of the sums of money he had given. At his office his assistants were more than willing to drag out letters and documents about any subject I wanted to study but, here again, when it came to a statement as to the sums given to various lines of work, they also were reticent. One does succeed, however, in discovering in what a business-like way this giving of benefactions has been carried out. I could not find, for instance, that Mr. Rockefeller has himself signed a check for five years; in bestowing all his gifts he has hardly written a personal letter concerning them.

Take as an instance a sum sent to the General Education Board. Mr. Rockefeller has never met the directors of this board in meeting, and most of its members have never even seen him; he has never made a personal recommendation as to the investing or the spending of a dollar of the fund. Once, when he came to fulfil a pledge to give $10,000,000 in securities or cash, he telephoned when the day arrived and asked his representative to take checks, aggregating $10,000,000, to the meeting of the board. They were made out and signed by his cashier, he never saw them and wrote no letter to go with them. What his sensations were no one can tell, but we know the transaction was done in a common-sense manner with the least possible fuss and feathers — no one would ever have heard of the gift from him or his office. When the additional sum of $32,000,000 was given to the General Education Board it was accompanied by a note of eight lines.

Almost all of his benefactions are made in this simple, silent, efficient way; they go on day after day, not one in a hundred ever being heard of by the public. It is another sign of the elemental character of the man. The trivialities of giving do not appeal to him, the small machinery of check-signing and letter-writing bore him and he won't give his time to these details. That he almost never writes a letter personally comes from the fact that he is a born organizer and he knows that other people can attend to the details better than he. He seldom, I think, reads through the long reports made up at his own desire; he gets some one whom he can trust to tell him what is in them, but you may be sure he gets the actual facts they contain. When he is away from home telegrams answer for correspondence, and when in New York the telephone message is usually sufficient.

Here is a characteristic happening that I ran across accidentally. Last summer Mr. Rockefeller through his office undertook to have trained nurses visit every home in a certain section in the tenement-house district to show poor women how to take better care of babies. His idea was not instituted as a relief measure, it will be noted, but to demonstrate the scientific fact that through the women now educated on these lines the death-rate would decrease several points. This fact was demonstrated with the result that the proper authorities have undertaken to provide this education to poor mothers in New York. This is an example of the kind of work that appeals to Mr. Rockefeller and shows why the effect of benefactions he is working out will last.

A DESCENT TO SMALL THINGS

He has a keen and kindly sense of humor which leads him often to emphasize the point of an argument by a story. He belongs to the fortunate company of the light-hearted and his faith in human nature is far beyond what most of us are able to maintain.

He is not, I should say, a great reader. The mere task of reading is irksome, his mind works so much more quickly than his eye that he demands a short cut to information of all

kinds, and he apparently manages to get it somehow.

It may appear strange that a man of such large ideas and affairs finds great pleasure and satisfaction in the game of golf. But golf has a vital hold among the most mentally active men, because, no doubt, it requires great concentration of mind, and is a healthful out-of-door recreation that may be played from the cradle to the grave.

The way Mr. Rockefeller goes at golf is characteristic. He takes it with exceeding deliberateness, as he does everything else; if he has any nervousness or temper hidden about his person, he does not show it even on the golf links. His movements are slow and careful and he plays a good game for a man who took it up so late in life.

As a rule, he drives a good ball of, say, one hundred and sixty or eighty yards, but if he should top his drive into one of those spongy marshes which often lie in front of the tee for the benefit of the unwary, he does n't put down another ball and begin over again (forgetting very likely the stroke and the penalty), but takes his niblick, goes into the sticky slough of despond, makes the mud fly in all directions, plays the ball out, and keeps accurate count of the strokes used. If he drives into the woods (and he seldom does — he deliberately fixes his stance to avoid it), he goes after the ball, finds it, and plays it out, no matter how many strokes it takes, and when finally he arrives on the green, he puts the ball painstakingly into the hole if his last stroke covers only two inches. Mr. Rockefeller plays scrupulously honest golf; he avails himself of no slighting of the rules, and this is not a universal practice with people who take a hundred or more strokes in going eighteen holes.

As a traveler he is democratic. In general he uses the same trains as the rest, no private cars; and when, as is often the case in the South, there is no dining-car, he goes to the station table and takes the restaurant fare with the other passengers. In one instance, he expressed his appreciation of some of the items on the bill of fare with an enthusiasm with which some of his more pampered fellow travelers could not altogether agree.

"If he is as rich as men say, he has a queer way of showing it," said one passenger; "if I had his money, a private Pullman fifty yards long would n't be too good for me."

Perhaps all this is idle gossip and it is foolish to write it down in serious print. The excuse for doing it is this: Comparatively few men know or can possibly know Mr. Rockefeller personally, many may know him by evil report. If it can be made plain that his character is that of a man of simple tastes, with no ostentation, with no small vanities, and further, that he works on broad and impersonal lines, the public will gain at least one new idea about him.

What a hardship to Mr. Rockefeller has been the flippant reporting of his daily doings by the newspapers few readers realize. A year or two ago his daughter, Mrs. Strong, was fatally ill in a little country town in France. He was sent for and on the ship was greeted by two reporters, who told him that they had been instructed to stay as close as possible during the entire trip. This they did during all the trying weeks which followed, reporting the daily events in the little town, so that this home tragedy had to be carried on under the eye of these representatives of the public. Mr. Rockefeller admitted that he found this hard to bear at such a time, but he added, "I think the reporters hated to have to do it."

MR. ROCKEFELLER'S METHODS OF WORK

Let us give a story to show how fundamentally direct is his mode of working:

In the early nineties he found himself in possession of a great deal of land in the iron ore country in the Lake Superior region. To make the land, which was purchased as an investment, yield any interest, it was necessary to get this ore to market. His competitors controlled the means of transportation and he was practically shut out of the best and most effective facilities. This was the way he went at the task of overcoming these disadvantages.

He sent, first, a representative to find out who knew most about ore transportation and the building of ore vessels. The identity of the man was easily discovered, and it was, of course, a man who was himself a large factor in the control of the trade into which Mr. Rockefeller proposed to enter.

Most people would have concealed their plans from the one person who was to be the chief rival in the new business. This is exactly the opposite of what Mr. Rockefeller did. He asked the gentleman to call upon him, and

then explained to this expert that he was going into the ore business, and that he wanted him to build the boats. When the ore man recovered from his amazement, he declined and explained that he had no idea of working to aid a new rival to go into his business. In ten minutes Mr. Rockefeller explained to him that he was obliged to market his iron ore from his lands to get an income from the investment, that he was willing to pay the builder a good profit for the best boats that could be built, that he was also willing to give an order then and there for $3,000,000 worth of ships, but that, if he did not care to take this order, he would have to go to the next best man, which would deprive the ore man of the profit to be gained from building the boats, but that the work would surely be done by some one. He had logic and common sense on his side and the ten minutes' talk was sufficient. The details were worked out at the office; the ore man accepted the order at a price profitable to him and the result was a good bargain for both. You may be sure that the satisfaction to Mr. Rockefeller was the personal touch with the man — the making of the trade. Even in his most active times he was not interested in details. I never knew of a man who was more bored by mechanical or trivial items, or on the other hand more interested in the small things which add real significance to any plan he is working on.

MR. ROCKEFELLER ON BUSINESS MORALS

Whole books have been written to show how Mr. Rockefeller oppressed his rivals, and ruined their business by securing unfair rates for transportation, pursuing them to the bitter end. His own description of his dealings with these men is an exact antithesis to the story his enemies have told. The steady growth of public opinion has now charged that Mr. Rockefeller built up for himself by pulling down others, piling his edifice on their ruins. When a man showed his head in the oil business, he was at once gone after, spied upon, and his trade ruined; then his business was taken over for a fraction of its value. This is, in effect, his statement on the subject.

"It would have been impossible to make a success by oppressing people. Big men who do things in a large and effective way cannot be oppressed; they may suffer a temporary disadvantage, and one might make a temporary profit by pushing them at such a time, but it would be only for a time. I never was so foolish as to follow these tactics; I wanted able men to work with me and not against me. I tried to make friends of these men, I admitted their ability and the value of their enterprises. I worked to convince them that it would be better for both to coöperate for economy, for extending the world's markets, for the development of by-products; and if I had not succeeded in getting their friendship, the whole plan of the Standard Oil Company would have fallen to the ground. I admit I tried to attract only the able men: I have always had as little as possible to do with dull business men.

"Let us go a step further and suppose that not only by getting rebates from the railroads on our own products but on the products of others as well, I had ruined these able men and forced them to come in with me. Could any man alive develop from such material the *esprit de corps* which even our enemies admit we have always possessed? Perhaps you say, after being so near ruin, a man will go in with anybody who will show him a way out. This can only be answered by the personnel of our company. Strong men who had been ruthlessly shorn of their self-respect would not for thirty years work in harmony and build up a great business. The thing is inconceivable."

So the reader may take his choice between the arguments, but for the sake of giving the benefit of a doubt, let it be remembered that the crowd has made up its mind: a paragraph to the effect that the Standard Oil people had done a just action would not be widely printed; a story that the Standard had crushed out another deadly rival would be circulated broadcast even if both tales were not founded on fact, because the crowd desires to justify its already accepted conclusions: it does not want to begin its mental processes over again.

WHAT KINDLED THE BLAZE

The acute seeker for truth may naturally ask, "Why should all sorts of stories be told of Mr. Rockefeller if they are groundless? Why so great a volume of smoke unless there was some bright little blaze kindled into life somewhere?"

In the first place, Mr. Rockefeller was a born organizer; he sought and obtained only the brightest men in the firms he brought together into his organization, and large was

the number of such consolidations; and no new order of things can go into effect without bringing antagonism into being. The list of men who must have felt slighted is very large.

Secondly, the mere magnitude of the organization made years ago, when combinations were new, brought down upon his head the first resentments, while the same things done later, in the ordinary course of business combinations, attracted no attention. Even if the things done then were much less liable to criticism than if done now, the judgments were more unfriendly and less impartially studied.

In the third place, the effect of these consolidations is in some respects similar to the effect of introducing labor-saving machinery. While they make possible great economies in production, so that the price of the product to consumers can be reduced at the same time that the wages of labor and the remuneration of capital can be increased, it nevertheless results for the time being in the displacement of certain individuals who had theretofore been profitably occupied. In the one case, the individuals displaced are the workmen whose labor is made unnecessary by the improved machinery; in the other, it is the managers of the smaller plants whose services are rendered unnecessary by the improved organization. It is natural that in both cases the persons who are displaced should fail to appreciate the advantages of the change and should complain of their misfortunes.

It is, of course, too soon even to guess at what will be the final outcome of all the litigation now going on in the courts against many combinations of capital conducted as great corporations. That public opinion has been inflamed by both real and imaginary abuses is unquestioned, and no man can speak intelligently of the final outcome. Many people have based their judgment of Mr. Rockefeller not on definite knowledge of his conduct but upon their general opinions about combinations of capital and such subjects. For years he has been known all over the world as a genius at making money, but as a genius at equally efficient giving, the public knows next to nothing of him. How fundamental and far-reaching these plans are will not be demonstrated adequately for many years. For the end is not yet.

THE WHITE RACE IN THE TROPICS

A HABITABLE AREA OF TEN MILLION SQUARE MILES IN SOUTH AMERICA AND AFRICA AWAITING DEVELOPMENT

BY

S. P. VERNER

THE star of empire has reached the Pacific on its westward way; now it must go southward. For the last twenty centuries we have seen the dominant peoples of the world gradually fill up the north temperate zones, and encroach upon the south temperate until in Argentina and South Africa they have achieved an effective occupation, and now they stand fretfully looking upon the vast, rich regions under the Southern Cross, ready to fill up the measure of their last opportunity. What shall we do with the tropics? That is the great question of the twentieth century.

Can we do anything with them? Let us examine the question in the light of history. The inquiry is necessarily limited to the possibilities of the "white" race in the lands twenty degrees on each side of the equator. I include the Semitic races in this classification. That the Aryan race at one time built up a great civilization in a tropical land is shown in India. The present common Hindoo is no longer a type of what this race once was because of the intermingling and superimposition of the Malay and Hamitic types which, the one aboriginal, the other interpolated, have so vastly modified the whole population of the peninsula. But it is noteworthy that the builders of the ancient civilization of India, once so glorious, whose remains, in temple, shrine, palace, art, and literature, still compel

the wonder of modern beholders, were the Aryan peoples from the Araxes and the Aral plateau. It is sometimes imagined that the decadence of this civilization is evidence itself of the white man's unfitness for the land he conquered. The inference is a *non sequitur*. Indian civilization was originally builded by a white race and its resurrection is being achieved by a white race. That ancient civilization was complete in its kind, before decadence set in, and had lasted longer than the Roman Empire before it began to totter. Its decay was not due to climatic or geographical causes, but to social and economic forces, for if the climatic reason operated, why did it not prevent the development of that civilization in the first instance?

In what sense is this industrial conquest of vital moment to the American people? Clearly this: the nearest continental land masses to us are Europe, South America, and Africa. Our general relations to the European powers and peoples are already more or less clearly defined. We know with whom we have to deal, and the problems of our present and future relations with them are fairly well known. What these relations with the powers which may eventually develop in Africa and South America are going to be is one of the greatest questions of the future; how to provide for peace and mutual advantage with the nations which may develop there is a task of paramount importance to the American statesman of this and coming generations. What are the means by which these desirable ends are to be achieved?

First, by the means of a favorable tariff régime of reciprocity. Already the imports from these lands consist so largely of raw material, mostly non-dutiable, that this step in the right direction may be said to have been begun.

The all-effective means, however, of increasing commerce with these tropical regions, is the presence of efficient Americans resident there and actually engaged in business. This is the *modus operandi* of the European powers in South America, to the relative loss of American prestige. While various causes are commonly alleged for this — their advantageous banking and credit terms, their energetic advertising, their subsidized merchant marine — the really potent force is the man who lives in the territory to be assimilated. It is the resident German in South America who is at the bottom of German commercial supremacy. Actual residents of these foreign countries with business, social, and sentimental connections with their home lands diffuse information about the products of their former country; they send orders themselves; they cause their neighbors to do so; they find business openings, land for sale, and all sorts of opportunities, which they describe to their countrymen, and which induce many to follow the pioneers. While boards of trade are blowing trumpets, and consuls are making reports, and diplomats are exchanging visits, these unheard individuals are going serenely on, unconsciously laying the foundations of international commerce and effecting the gradual transformation of the country that they occupy.

A man of the writer's acquaintance had twelve hundred dollars and a few months time. He went to the tropics, made large scientific collections, took photographs, studied local conditions, came home, cleared ten thousand dollars on his work, and was in demand for his knowledge, besides having a store of experiences to bequeath to his grandchildren.

One does not easily realize how much development is still possible in the tropics, development in which we can directly take part. In Africa, the tropical regions south of the Sahara and north of the Zambesi include about five million square miles, nearly all of which is capable of agricultural development. A curious coincidence is that tropical South America is of almost exactly similar extent, so that these two great tropical regions present a superficial area of ten million square miles, practically all of which is capable of productive exploitation. The total population of these regions is 115,000,000. This gives an average of about eleven persons per square mile. While it is true that these lands are not all equally desirable, the proportion of good land is higher than in any other equally large landmasses anywhere in the world. It is interesting to compare this density of population with that of other countries. In China, it is one hundred people per square mile; in the Russian Empire, twenty per square mile; in the United States, thirty; in France, two hundred; in Belgium, seven hundred. The two tropical regions containing the ten million square miles above mentioned could give to every man, woman, and child on the globe a five acre plot capable of producing everything

necessary for their comfortable support. It is clearly evident that those immense regions offer to the world opportunities not yet faintly dreamed of.

What these two vast tropical regions are capable of producing is shown by the following tables:

Vegetable and Animal Products

2	billion	dollars'	worth	of	rubber	gross	a	year
1.5	"	"	"	"	cotton	"	"	"
1.6	"	"	"	"	corn	"	"	"
2	"	"	"	"	veg. oils	"	"	"
.7	"	"	"	"	fruit	"	"	"
3	"	"	"	"	timber	"	"	"
	with re-forestation every fifty years							
2.5	billion	dollars'	worth	of	cattle and horses			
13.3	billion	dollars	total	per	annum in perennial vegetable and animal products.			

Mineral Products

400	million	dollars'	worth	of	iron	for	centuries
100	"	"	"	"	silver	"	"
200	"	"	"	"	gold	"	"
700	"	"	"	"	copper		"
850	"	"	"	"	coal	"	"
400	"	"	"	"	min. oil		"
2,650	"	"	total				

This gives a grand total of nearly sixteen billion dollars of possible annual production from resources known to exist, and confining the products only to the above articles. The output in the United States in such of the above articles as are here produced for the year 1907 was about five billion dollars. This shows that the estimate for the two tropical regions is conservative. As the rubber and vegetable oil products are peculiar to them, and as the mineral resources are almost untouched, the estimate (which was worked out in detail from reliable data before being summarized) is a safe minimum. The mineral and metal resources are probably many times greater than the known deposits above enumerated.

It remains to modify the theoretical capacity of those regions by the factor of the labor. The population of the tropics under consideration is about one hundred and fifteen million. The United States, with a slightly smaller population and one-third of the natural resources, produces vastly more than one-third of the above estimated annual product. To reduce the matter to figures, before correcting for minor errors, the average American, man, woman, and child, produces about seventy-five dollars' worth of the great staples per annum. This, of course, is not the final average of the total productive capacity of the American, but simply his average production of the great staples.

At this rate the present population of the tropics could produce nine billions of the fifteen above mentioned. The comparison might be criticized for balancing many savage and barbarous races against the American working man. But, on the other hand:

(1) The kind of manual labor required to produce most of those staples is unskilled. The native African, for example, has already shown an aptitude for ordinary industries equal to that of his American cousin, and his capacity is constantly increasing. In South America the native population is not so hopeful, but the stream of migration has been setting in that direction and will continue to do so.

(2) It is only a matter of a comparatively short time before a steady stream of settlers will start toward those regions. The filling up of the other parts of the world; the tendency in America to restrict immigration; the rapid increase in the knowledge of the resources of the tropics and in the knowledge of how to live there; the extension of the means of communication and of transportation; the awakening of the great powers to the value of the opportunities they possess in the territories they control in Africa; and the increasing appreciation, by South American governments, of the fact that land is worthless without men to work it; all of these influences contribute to the southward movement which will be the characteristic economic fact of the twentieth century.

(3) It is very often true that an inferior race directed by individuals of a superior develops greater efficiency for a given task than where the manual labor and the executive supervision are performed by the same race. The qualification attaching to this statement is that this is true where there is effective organization, and the work to be accomplished is divided into large units. Under a system of individual settlement and many small industries, the higher the race of the lower class of labor the better. It is evident, however, that a vast amount of tropical development, especially during its preliminary stages, will be accomplished by great industrial concerns, with a hierarchical system of superintendence, giving to the labor at the bottom the benefit of

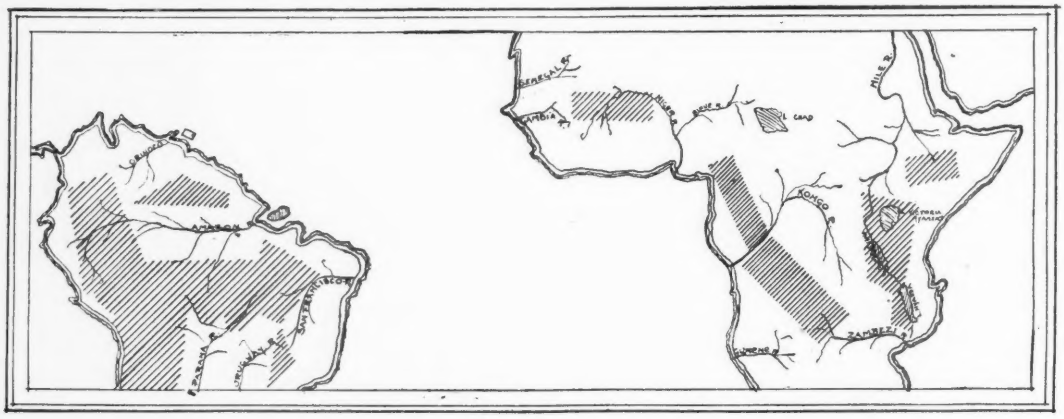
the most skilled direction and control. This will make the native labor in the tropics admirably adapted to the purposes in question.

(4) The other advantages offered by the use of the native labor include: Their adaptability to climatic conditions; their lack of tendency toward strikes, discontent, and organization for destructively selfish purposes; their interest in and love for the country of their origin, and their pride in its growth and development.

When all these things are considered, it appears that the labor *in situ* is far from being a negligible quantity; and that, supplemented by adequate directing talent, it is capable of playing a most important part in the progressive development of the tropical regions. Indeed, one may say that with three million capable, progressive whites wisely distributed over the ten million square miles, as friendly directors and instructors of the existent population, that population will be capable of producing all of the nine billion dollars' worth of staple products per annum.

This brings us naturally to one of the main factors in the "how" of this great problem. The wise distribution of these additional white men is a matter of tremendous importance. Taking the matter up in detail, the way in which I advocate the placing of these soldiers of industry appears on the map, in its general outlines. At the same time, these sections must be known in considerable detail to facilitate the wise location of these white centres.

To illustrate the point, I take a concrete case. Between Matadi and Stanley Pool, the Congo Railway crosses the summits of the Chrystal Mountains, at an elevation of about three thousand feet. In the hottest month of the year I found those places delightfully cool, and the testimony of all the whites is that along those ridges the climate is practically temperate and salubrious. The white men pushed on, however, into the remoter interior regions, for various reasons, most of them sound. But they neglected this salubrious region. In general, this range of mountains borders the Congo Basin on the west for nearly a thousand miles, so that from settlements along the ridges or adjacent plateaus one may be in easy reach of all parts of the western half of the basin. Moreover, the soil in these upland valleys is excellent, and their natural resources sufficient. Probably most of the mineral wealth of West Central Africa will be found there. As many rivers run down these slopes toward the great inland streams, there is power and means of navigation both at hand. Here white settlers should be located, and a branch line of the Congo Railway should be built along this crest to serve their purposes. There ought to be an easy system of small land grants in such a region, and, in places, a few government farms, from which to send food to other parts of the country, and about which these colonies might group themselves. As the region will produce $50 per acre in rubber, net, the colonists can soon build up not only self-supporting but money-making plantations over a territory as large and as healthy as California.



THE WAITING TROPICS

The shaded area shows 3,200,000,000 acres of land habitable by the white races, with an average elevation of 3,400 feet and a mean annual temperature of 73° F.

The "line of least (apparent) resistance" in the tropics, which has naturally been taken by pioneers, is by no means always the most healthful. Along the great rivers, off the tempting bays on the coast, is the way men get in; and they are confined to the proximity of these places until a means of rapid transit can be devised. In general, one may say that it is vitally important to build railways through the healthful regions as early as possible.

Many colonizing efforts have failed, but the causes of failure are clearly discernible. If all of the points here mentioned are embraced in the scheme, success is practically assured.

Besides the two already mentioned — a healthful region and means of rapid transit to it — a third requisite is adequate means of support until the enterprise is productively self-supporting.

It is on this rock, for example, that Liberian colonization schemes have split. Men go there with no means to live, expecting to pick up bread-fruit under the trees, and bananas from the woods, and are soon undeceived. A well-planned scheme involves the taking of food-supplies, barter-goods, tools, medicines, arms and ammunition, and seed, for a year ahead, or arrangements to procure these things on the field, with the money to pay for them. No colored man ought to leave America for Liberia with less than five hundred dollars in his pocket, and he ought also to have a definite offer of land which he knows to be good enough and properly located, before he goes. A properly organized company could take care of all these points in advance, and render the Negro emigration from this country to any part of Africa feasible and successful.

Then, too, men going there ought to be willing to live in the simple style necessary to keep their expenses within the limit of their capital until they are self-supporting. In the Congo the extravagance of the average white man is astounding. Champagne is the invariable order of the day for men getting a few hundred dollars per year, and the official usually lands in Antwerp after three years with enough money for a spree, when he must sign and go back.

It must be remembered with what Spartan simplicity the American pioneers built up their early homes, and laid the foundation of the present wealth and luxury of the country. They lived in huts, ate corn-bread, drank water, wore homespun, and conquered an empire. The old principle of loving liberty better than comfort which the log-cabin exemplified is as sound as ever. The colonists ought to be encouraged to become land-owners, on however limited a scale; even when these settlers are agents for large commercial companies, the companies will find it beneficial to their interests in the end to encourage this development of the investing spirit. Ownership in land usually is the foundation of progress, and the strongest incentive to local patriotism.

In the details of actual operations, a large use of the most improved modern machinery is indicated. It is with reference to this point that many mistakes are made. One thinks without reflection that native labor is so cheap that much can be done more economically by hand. But the fact that the work to be done in these new lands is so enormously in excess of the available labor is in itself reason enough for the use of all the labor-saving devices possible. I saw an illustration to the point in the marine service at Leopoldville on Stanley Pool. The winch for drawing the steamers on the slips for purposes of repairs was elaborately provided with many long hand-levers for use by man-power. Perhaps as many as thirty men would be required several days to get the boat a few feet on shore. A steam winch would do the work in short order, and the labor of the men could be directed to what they alone could do — gathering rubber, where their time is worth a dollar a day each. This is the crux of the matter — put the manual labor where only manual labor can do the work required, and let whatever can be done by machinery be accomplished in that way. The field for the use of modern, improved machinery of all sorts in the future of the tropics is something so immense that we can hardly estimate the results from its application. For example, the magnificent water-powers in the valleys of the Amazon, San Francisco, Congo, Upper Nile, and Zambesi could run all the machinery in the world to-day, and have power left over. The development of invention has been such that by commencing with labor-saving devices in the beginning of an enterprise, the cost-units and profits can be more easily estimated and controlled than formerly. These devices will largely overcome many of the natural difficulties which exist. Each settlement ought to be planned on the basis of having an

ice-factory, saw-mill, automobiles, newspaper, telephones, electric lights, at least; and the general scheme ought to be so arranged as to embrace them. They will make life more attractive, labor more efficient, and the progress of the community very much more rapid.

The plan of local government ought to be so thoroughly understood in the commencement of the colony's existence as to minimize future misunderstandings. The questions of taxes, of land tenures, and the methods of land acquisition, of trade rights, of mining laws, ought to be enacted into a form fixed for a considerable number of years — not less than twenty — so that the colonists may know in advance what they have to expect, and arrange their plans accordingly. Large exploiting companies ought to have a contract with the government covering these points.

Training-schools for special study of tropical conditions, languages, and the methods of development most applicable ought to be part of the organization of our principal universities. Indeed a great international university in Cuba for this special purpose would be eminently in place. Similarly, training-schools for the native peoples are indicated. They ought to be intensely practical in aim and methods, teaching the way to work, the dignity of work, and the value of work. A savage, when emerging from his primitive condition, is very apt to look upon civilization as emancipation from work, and to try to attain to that false ideal.

Justice to settlers going from countries in which they enjoy a large measure of political freedom demands that the principle of local self-government shall be embodied in the scheme of government as early and as fully as possible. On this rock has many a colonial venture gone to pieces. Let the colonists be encouraged to govern themselves, and let the mother country occupy herself only with the relations of the colonies to external powers. It remains to take up in detail the exact situation in each of the great undeveloped tropical continents, but a concluding word here is pertinent in reference to the great possibilities of happiness for the "unemployed," the insufficiently employed, the relatively unhappy among us, in the vast fields to the southward. It is particularly because of their agricultural opportunities that these regions offer the means of comfort to many millions. An agricultural people has the most solid foundation for general social contentment. They are not so apt to respond to the sensitive influences of the market — at least not to the extent of real hunger and want. They can nearly always live and be free. To get the numbers who are all the time suffering from the disorder incident to our inchoate social conditions, especially in the great cities, to where they can both enjoy a measure of happiness themselves, and be instrumental in bringing into productive alignment the mighty plains, forests, hills, and valleys of the waiting tropics, is a task worthy of the highest effort of the patriot and the statesman.

A NEW KIND OF COUNTRY SCHOOL

SO CONDUCTED AS TO GIVE A WHOLLY NEW MEANING TO "EDUCATION"

BY

O. J. KERN

(SUPERINTENDENT OF WINNEBAGO COUNTY SCHOOLS, ROCKFORD, ILL.)

BESIDE a country road in Magnolia Township in Putnam County — the smallest in Illinois — stands the John Swaney Consolidated School, the finest of its kind in the state. For there a small group of people have had the knowledge and the faith to pay out generously their hard-earned dollars that their children in the country may have the corresponding school advantages that the most favored city children have; not the same advantages, for they realize that the teaching which will best adapt a child to life in the country is not that given in the city schools.

The people who have built up this country

school are not rich. They are simply honest, hard-working farmers, descendants of good old Quaker stock from Ohio and Western Pennsylvania, who believe — and are willing to pay for their belief — that their children should have the best possible preparation for living a large, free, country life.

Mr. John Swaney, a farmer of moderate circumstances, donated twenty-six acres covered with original growth — oak, elm, walnut, etc. — for school grounds. The schoolhouse, which takes the place of several little old-fashioned country schoolhouses, cost, with its equipment, $16,000. It is a two-and-a-half-story building containing four recitation rooms, two laboratories, a large auditorium, two library and office rooms, a boys' manual-training room, a girls' play room, a furnace room, and cloak rooms. All are lighted with gasolene gas generated by a plant, the reservoir of which is outside of the building. The laboratories are also furnished with gas from this plant. The building is heated with steam and furnished with running water supplied by an air-pressure system. The schoolhouse and the grounds set forth, as they should, the highest ideals of the countryside.

On the school grounds is a barn for twenty-four horses. Here are stabled the two teams of the two wagons which haul the children to school, for when the small schools were abandoned some of the children were left three or four miles from the consolidated school. The extra stable-room is for the horses of tuition-pupils from outside of the consolidated district. The roads are ordinary dirt roads in good weather. In bad weather the dirt becomes mud, Illinois mud, of the very best quality. However, the farmers of northern Illinois never fail to get their milk to the central creamery if it takes four horses to do it. The Putnam County farmers believe that the children are deserving of as much consideration as their milk. One of the wagons employed in hauling the children to school makes a round trip of nine miles; the other one goes nine and one-half miles. Each wagon makes twenty-two trips during a school month. The teams are driven by farmer-boys who are in the high-school room. The cost of this transportation is forty dollars per month. As twenty children ride in each wagon it makes transportation for every child about nine cents per day, or about the cost of two street-car fares in a city. The wagons cost about three hundred and twenty dollars and are the property of the district. During all last year not a single trip was missed, neither wagon was tardy a single time, and extra horses were needed only three times. Yes, civilization is advancing in spite of mud.

One of the abandoned school-buildings which stands just off the twenty-six acres has been remodeled for a teachers' home at a cost of five hundred dollars. This was done without expense to the district. Three or four farmers took this way of spending their own money to solve the problem of the boarding-place for country teachers. The teachers pay nine dollars a month rent for the use of the building and hire a competent housekeeper to cook and care for the home. The domestic-science teacher in the high school outlines the daily menu for their table.

This farming district has been as wisely generous in hiring teachers as it has in building an adequate plant. The principal is a graduate of the Central Illinois State Normal School, and has had one and one-half years additional work in the Illinois College of Agriculture. He receives a salary of one hundred dollars per month. The woman assistant in the high school, also instructor in domestic science, is a graduate of the Evansville, Ind., High School, with one year's work in Northwestern University and another year's work in Chicago University. She receives sixty dollars per month. The teacher of the fifth, sixth, seventh, and eighth grades is a graduate of the Central Illinois State Normal School and receives sixty dollars per month. The teacher of the first, second, third, and fourth grades is a graduate of the Western Illinois State Normal School and receives sixty dollars per month. The "faith" of these farmers is strong, and their "knowledge" is broad enough for them to realize that a well-trained, well-paid teacher will give more efficient service than a cheap, untrained one, and is far more economical in the end.

The course of study for the grades below the high school is that outlined for the common schools of Illinois, known as the Illinois Course of Study for the Common Schools. The high school contains the regular studies for high schools in Illinois, but there is a modification in the science course to include agricultural training. It begins with the study

of the seeds of common grasses, grains, and garden vegetables. There is a course on soil physics — different types of soils, their origin, composition, characteristics, and behavior under different treatment — another course which deals with the effect of the rotation of crops and the different systems of farming. There are two courses on animal husbandry and one on horticulture, besides the more usual teaching of manual training and household science. This is the country adaptation of the movement for industrial education, a training for more efficient service in the age of scientific agriculture.

Under the management of the Illinois College of Agriculture, at the University of Illinois, there are located over Illinois, in the different soil-areas, twenty-three sub-experiment stations through which the farmers may learn the needs and best methods of improving the soil. One of these is located on ground adjoining the east side of the campus of the John Swaney Consolidated School, which will have the privilege of observing the work of the station and will have access to the results.

This is what it means adequately to improve the country schools. The children in these small districts are entitled to a good building — a workshop, if you please — well equipped for doing good work. They are entitled to the educational influence of trees, vines, shrubs, and flowers in a large playground surrounding a neat building that will contribute toward the spiritualization of country life. They are entitled to the inspirational leadership of a well-trained teacher, who is in sympathy with all that is richest and best in country life. They are entitled to secondary education, a high-school course flavored with agricultural chemistry, agricultural botany, soil physics, manual training, home economics, etc., within the reach of all the children of a given country district without the necessity of their leaving their homes. The training in the country school of the future should aim to conserve all that is best and richest in a "type of mind and life" distinctively rural. The proper organization and administration of the country school system will supply art, literature, music, social opportunity for the farm. These things should be as accessible along the country road as beside the city boulevard. In the opinion of the writer this is the definition of the term "adequately improving" the country school. When you have thus vitalized the little country school you have made it the most expensive in the world per capita. Even thus vitalized, it still lacks the social enrichment possible in the consolidated school through a more varied course of study and contact with life. Here will come the trained teachers — so soon as the farmer learns to appreciate the trained teacher. They will vitalize the work of the country school and create a demand for superior work by the character of the service they render. The enlarged social participation is possible only in such a larger unit of administration as the consolidated district affords. This country high school, with a course of study flavored with country life and its interests, promises much for the future, especially when we reflect that under existing conditions in the Middle West 90 per cent. of the children now enrolled in the country schools get no other education, so far as books are concerned. They can not, or do not, go to the village or country high school. The consolidated school is more expensive than the isolated country school. It should be, for it offers far more effective service. The average country school, especially the small school with an enrolment of fifteen pupils or less, is both the cheapest and most expensive, paradoxical as this may seem. A just basis of comparison is to take the unit of work — the day's attendance — and compare that with a like unit of the consolidated school. Let the farmer "adequately improve" his school and then count the cost.

If one were to formulate an educational creed for farming districts it might well come from the experience of Magnolia Township, and it would read something like this:

The country child is entitled to every whit as good an educational opportunity as that now enjoyed by the most favored city child attending the American public school.

In order to have this equality of educational opportunity for the country child, the country people must spend more money on the country school and spend it in a better way.

The people of this one community are acting according to this creed. They are giving a practical demonstration that people of moderate circumstances can make a contribution to the enrichment of country life. They are living the eleventh commandment —*thou shalt enrich and enlarge the life of the country child.*